PRINTING EQUIPMENT ENGINEER

JUNE • 1934

A TECHNICAL PUBLICATION FOR MECHANICAL EXECUTIVES RESPONSIBLE FOR PRINTING PRODUCTION, EQUIPMENT AND SUPPLIES IN THE COMMERCIAL, MAGAZINE, PRIVATE PLANT AND DAILY NEWSPAPER FIELDS

GOSS . .

HAS SOMETHING NEW

For the medium sized

WRITE FOR DETAILS OF THE NEW GOSS UNITUBE PRESS

● Are you considering a new press in the range from 8 to 24 pages? If so, it will pay you to learn all about the new Goss UNITUBE Press!

● The Goss UNITUBE Press carries to a higher state of perfection the merits of the traditional tubular plate press. It offers the utmost in *speed, mechanical simplicity, durability, and economy of upkeep and operation.* It is a *unit type press ... accessible ... flexible ...* variable to page combinations in multiples

THE UNITUBE PRESS

newspaper!

of two. The UNITUBE Press is readily adaptable to *color printing* — with provision for the *shortest possible color leads.* Incorporated in the Goss UNITUBE Press are many other new features *revolutionary in their importance.*

GOSS

STRAIGHT — GOSS HIGH SPEED — LINE

THE GOSS PRINTING PRESS COMPANY, CHICAGO, ILLINOIS • NEW YORK OFFICE: 220 E. FORTY-SECOND ST. • SAN FRANCISCO OFFICE: 707 CALL BLDG. • THE GOSS PRINTING PRESS COMPANY OF ENGLAND, LTD., LONDON

Tapered Roller
TIMKEN BEARING
EQUIPPED

READ WHAT TIMKEN SAYS

ON PAGES 4 and 5

● Goss uses Timken Roller Bearings extensively in its High Speed Anti-Friction Press . . . mounts printing cylinders in pre-loaded Timken Roller Bearings . . . takes a momentous step forward in modern newspaper press engineering. Be sure to read the Timken ad!

All Plate and Impression HIGH SPEED ANTI-FRICTION

The Goss 34-unit newspaper press now being installed at the plant of the Chicago Tribune is the modern answer to the demand for higher production speeds and better quality presswork in newspaper printing.

• This equipment is designed to operate at productive speeds ranging from 50,000 to 60,000 papers an hour. The Goss Printing Press Co. regards the use of Timken Tapered Roller Bearings on all plate and impression cylinder shafts as one of the most important factors in attaining and maintaining these speeds. Furthermore, Timken Bearings assure the operating smoothness and accuracy upon which printing quality depends.

•The Timken Bearings used on the cylinder shafts of the Goss press are of the same pre-loaded precision type as those used on the spindles of modern heavy duty machine tools, where tolerances as close as 1/10,000 of an inch are frequently specified. Nothing less accurate could successfully meet the exacting requirements of this modern printing equipment.

• With the cylinders mounted on Timken Bearings there is no shaft play or vibration and no cylinder jumping. Correct and constant cylinder alignment is assured. Wear is virtually eliminated. Radial, thrust and combined loads are safely carried. Press dependability and life are correspondingly extended.

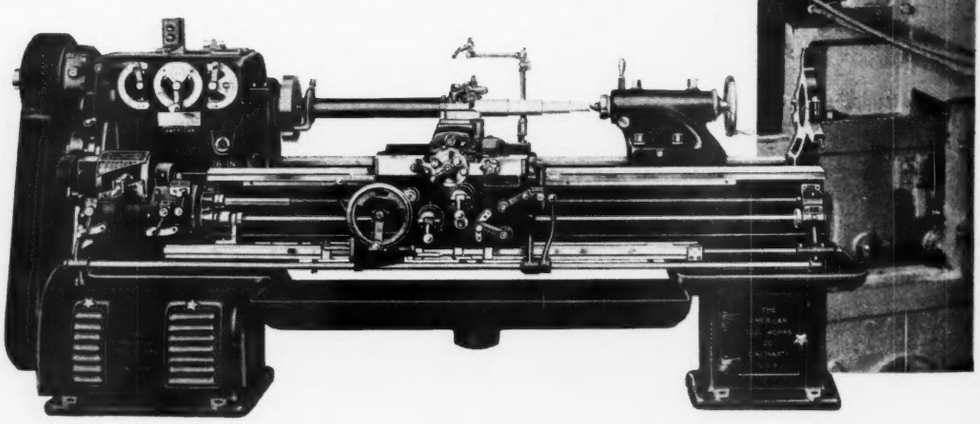
• These advantages are made possible by the exclusive combination of Timken tapered construction, Timken positively aligned rolls and Timken alloy steel, the combination that has licked the toughest bearing jobs throughout all industry. It will pay you to be sure that this modern advancement is included in the printing presses you manufacture or buy.

Tapered Roller TIMKEN BEARING EQUIPPED

THE TIMKEN ROLLER BEARING COMPANY • Canton, Ohio

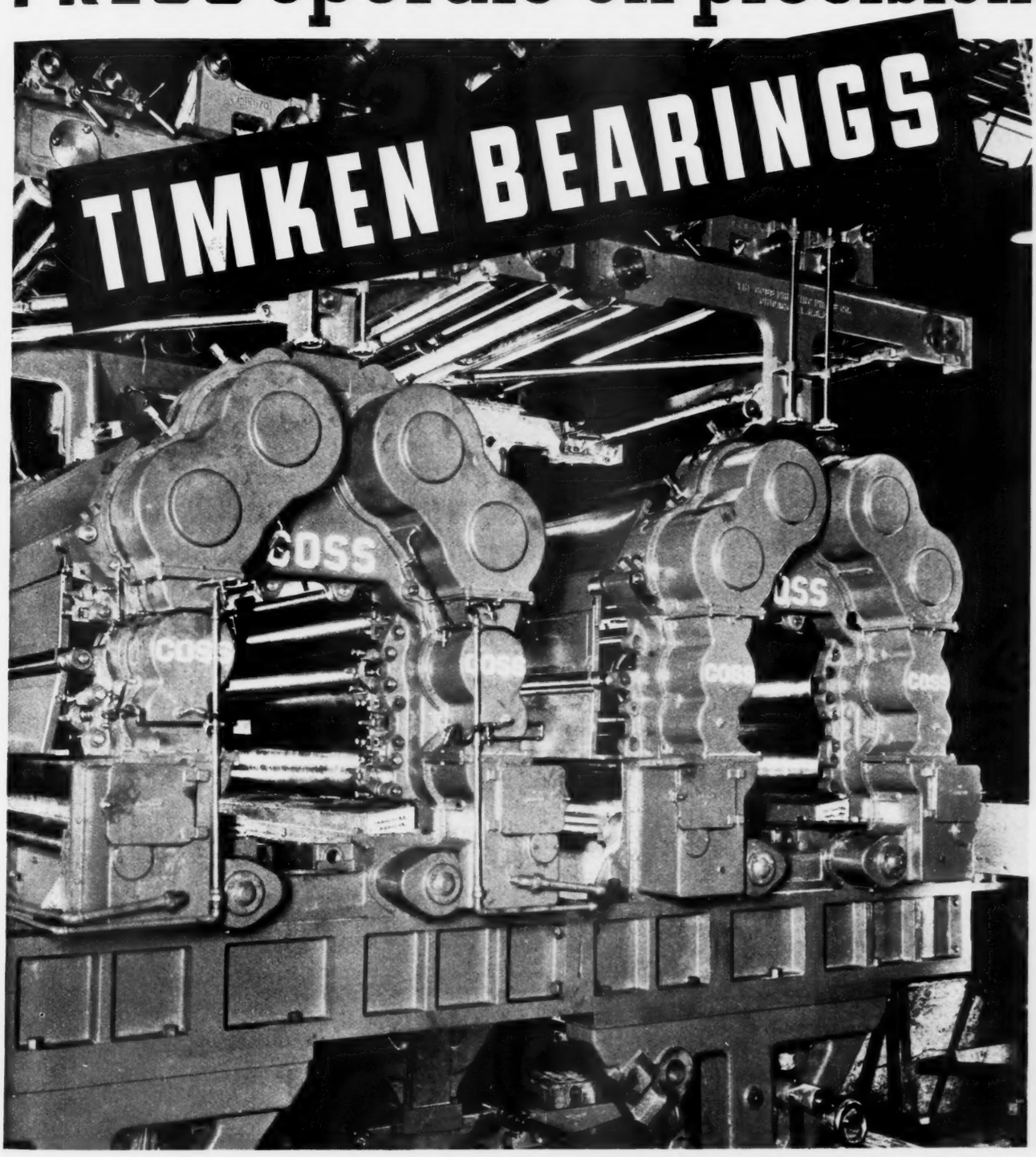
★

Modern high speed production lathe equipped with pre-loaded precision Timken Bearings on the spindle . . . the same type of bearings as used on plate and impression cylinder shafts of the Goss press.



TIMKEN Tapered Roller BEARINGS

Cylinders of the GOSS PRESS operate on precision

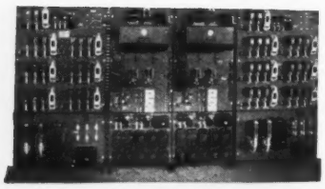


Erection view showing 2 of the 34 units of the Timken-equipped Goss High Speed Anti-Friction Press.

TIMKEN *Tapered Roller* **BEARINGS**

Which Drive Do You Need

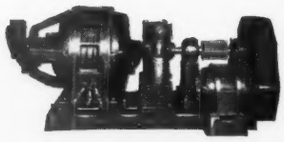
For Your High-Speed Newspaper Presses?



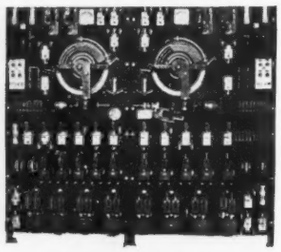
Two a-c. full-automatic, double-motor controllers arranged for parallel operation

If it's a-c.

Why convert to constant-voltage direct-current power? Large-size a-c. double-motor drives are practical. There are in operation 27 General Electric 200-hp. double-motor a-c. equipments on modern metropolitan presses with full-automatic contactor-type controllers without sliding contacts. This system provides high over-all economy for high operating speeds and is practical in any capacity to meet your requirements.



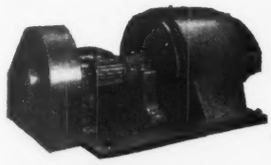
200-hp. a-c. double-motor drive



Two d-c. full-automatic, double-motor controllers arranged for parallel operation

If it's d-c.

Why depart from the accepted standard? The large number of recent installations attests the popular acceptance of the General Electric double-motor d-c. drive for metropolitan presses. The full-automatic control system provides all the operating features with which pressmen the world over are familiar.

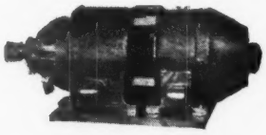


200-hp. d-c. double-motor drive

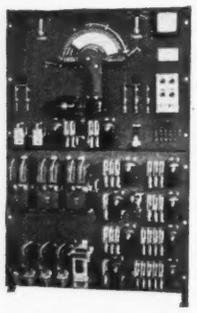
Is it unit-motor drive?

Why not eliminate the unnecessary mechanical-drive parts? The General Electric system of unit-motor drive with Selsyn electrical tie-in between press units permits the omission of drive shafts, clutches, couplings, bevel gears, and bearings and thereby reduces the daily maintenance of mechanical equipment, and in addition provides the greatest flexibility in the selection of press units.

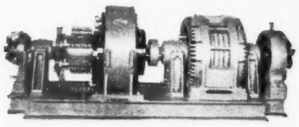
For the plant supplied with a-c. power, the General Electric unit-motor-drive system employs the variable-voltage method of speed control, while in the plant which has d-c. power supply, the individual driving motors are designed for speed adjustment by field control.



Selsyn unit-motor drive



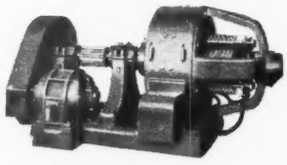
Full-automatic controller for unit-motor drives



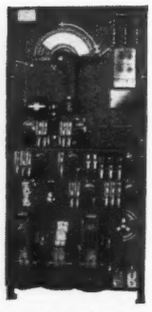
Variable-voltage, motor-generator set for unit-motor drive system

Is it variable-voltage?

Do you desire the maximum smoothness of speed control? For the plant supplied with a-c. power, the variable-voltage system provides this smoothness together with high operating efficiency over a wide range of production speeds.

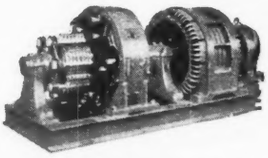


200-hp. double-motor, variable-voltage drive with a-c. threading motor



200-hp. full-automatic, variable voltage, double-motor controller

Why not permit General Electric engineers to assist you in analyzing your pressroom requirements? They can anticipate the operating characteristics of the various types of drives and can recommend the system best suited to meet your specific requirements. There's a G-E office near you, and there you will find printing-equipment specialists ready to coöperate.

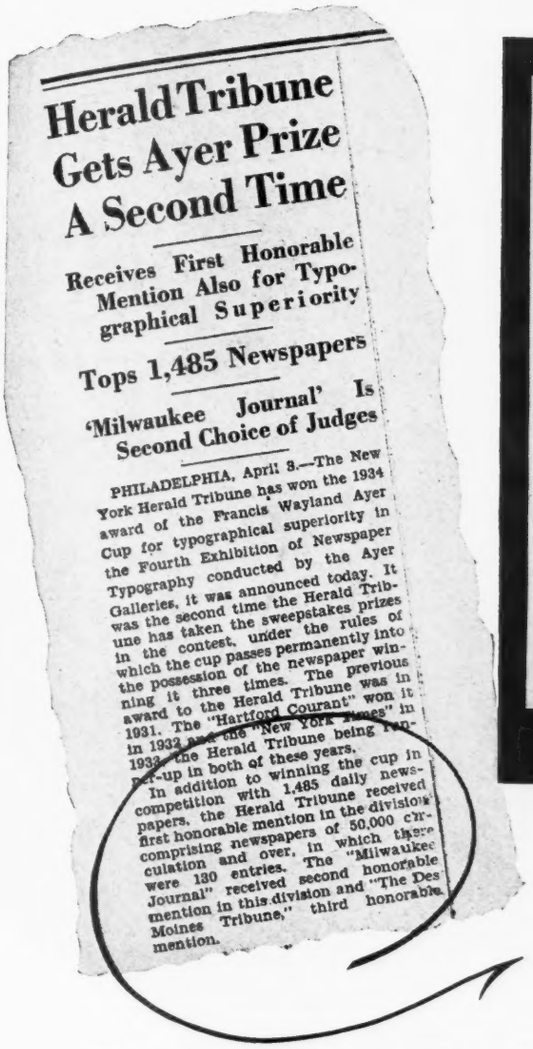


Variable-voltage motor-generator set for double-motor, variable-voltage drive system

011-14H

GENERAL ELECTRIC

PRIZE WINNERS
FOR TYPOGRAPHICAL SUPERIORITY



Herald Tribune Gets Ayer Prize A Second Time

Receives First Honorable Mention Also for Typographical Superiority

Tops 1,485 Newspapers

'Milwaukee Journal' Is Second Choice of Judges

PHILADELPHIA, April 3.—The New York Herald Tribune has won the 1934 award of the Francis Wayland Ayer Cup for typographical superiority in the Fourth Exhibition of Newspaper Typography conducted by the Ayer Galleries, it was announced today. It was the second time the Herald Tribune has taken the sweepstakes prizes in the contest, under the rules of which the cup passes permanently into the possession of the newspaper winning it three times. The previous award to the Herald Tribune was in 1931. The "Hartford Courant" won it in 1933 and the "New York Times" in 1932, the Herald Tribune being runner-up in both of these years.

In addition to winning the cup in competition with 1,485 daily newspapers, the Herald Tribune received first honorable mention in the division comprising newspapers of 50,000 circulation and over, in which there were 130 entries. The "Milwaukee Journal" received second honorable mention in this division and "The Des Moines Tribune," third honorable mention.

The prize-winning page, and the Francis Wayland Ayer Cup which, for the second time, has been awarded to the "New York Herald Tribune." This paper also received first honorable mention in the division comprising newspapers of more than 50,000 circulation.

The Winner, and ALL Papers receiving

Honorable Mention in the Division for Circulations of more than

50,000, use G-E ELECTRIC HEAT . . . . The coincidence is significant — skilled craftsmen choose good tools. ● If you, too, want better plates, reduced spoilage, less waste in metal, and clean, quiet, comfortable working conditions — in short, the advantages of electric heat — slip some G-E cast-in immersion units into your stereotype pot. ● Installation is simple; it can be effected over a single week-end. Consult the nearest G-E office; or address General Electric, Dept. 6B-201, Schenectady, N. Y.

160-4H

GENERAL ELECTRIC

PRESS BLANKETS

Coated Felt Press Blankets
Rubber Press Blankets
Cork Press Blankets
"Cleerprint" Draw Sheets

Press Tape—Paste for Flying Paster—Cutting Rubbers

PUBLISHERS' SUPPLIES

Of Outstanding Quality—Moderately Priced

STEREOTYPE ROOM SUPPLIES

Scorchers of every description
Packing Felts
- Gummed Sheets and Cut Strips
- Plain — Rolls and Sheets
- Prepared Fuzon

Cut Mounting Tissue
Nails and Tacks
Electrotypers' Rubbers
Wool Molders
Red Dryers
Rubber Molders
Phototone Creepers (Special)
Creeper Felts
Molding Boards
Matrix Shears
"Smatco" Mat Rolling Machine
Mallets
- Rubber
- Rawhide
- Hickory

Stereotype Tissue and Blotter
Cork Molders
Flat Shaver Boards
Tail Boards (Flat and Curved)
Chisels
Jig Saws
Planer Blocks
Stereotype Chemicals
Side Planes
Plane Bits
Routers and Bits
Brushes (all kinds)
Gummed Sealing Tape
Blue Dryers
Packing Felt Moisteners
Paste (Liquid and Dry; all kinds)
Remoistening Gum

SCORCHER SUPPLIES

Asbestos Cloth for Scorcher Covers
- Plain and Wire Woven
- Asbestos Paper
- Asbestos Thread

Heating Units (all kinds)
Switches (all kinds)
Heat Resisting Wire
Scorchrite Timers

AUTO PLATE ACCESSORIES

Steel Pouring Sheets
- Junior Autoplate
- Automatic Autoplate
- Tubular

Breaking Pins
Renew Pins
Shaver Belts
Autoplate Belts

COMPOSING ROOM

Keyboard Rollers
- Plain
- Corrugated

Knives Resharpened
Sennet Positive Assembler
Cam Wires
Steel Work Benches (all sizes)
Marvel Dust Blowers
Belting (all kinds)
- Router Belts
- Distributor Belts
- Assembler Belts
- Mat Delivery Belts
- Pi-stacker
- Keyboard
- Round Leather
- Endless and Clippered
- Miehle Belts
- Belt Hooks

PRESS ROOM SUPPLIES

Press Blankets
Draw Sheets
Bumping Pads
Blanket Punches
Press Tape
Ink Pumps
Cutting Rubbers
Paste

WRITE FOR QUOTATIONS AND DETAILED INFORMATION

AMERICAN PUBLISHERS SUPPLY

BOX 131, WEST LYNN, MASS.

Model "A" Form-O-Scorch

This machine uses dial heat control with transformer giving seven stages of heat. Eight heating units are used. A Scorchrite Timer for timing the scorching period of the mat is regular equipment on this model.

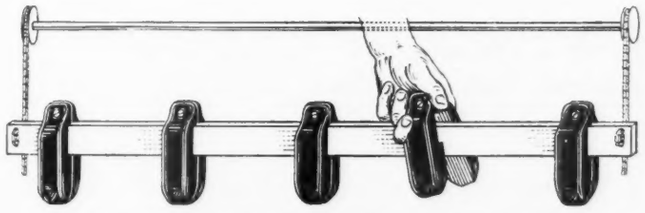
Model "B" Form-O-Scorch

Model "B" machine has a 3-heat manual control switch giving high, medium and low heat on a series of six heating units and uses 3000 watts. This machine has no automatic timing device but one may be attached at an additional charge of $10.

Fastest operating — most efficient — most reasonably priced Scorcher on the market

Model "C" Form-O-Scorch

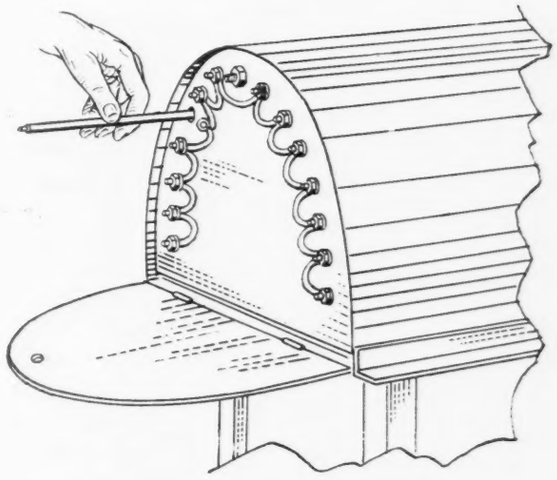
Model "C" has transformer control using sixteen units of 250 watts each on D.C. and eight units on A.C. supplying seven stages of heat. Heating elements on this machine are removable from the outside for testing or replacing without removing the drum. They can be replaced in less than two minutes. A Scorchrite Timer is also regular equipment on this model.



Counter weights, adjusting tension of the self-conforming asbestos cover

In models "A" and "C" the units heat constantly to any temperature desired by the stereotyper. Heat is controlled by the transformer dial on the front of the machine. The last heat stage is for flash heat only and must be cut down immediately. The self-conforming curtain draws the matrix down over the forming drum and holds it under uniform heat and even pressure until it is perfectly formed and scorched.

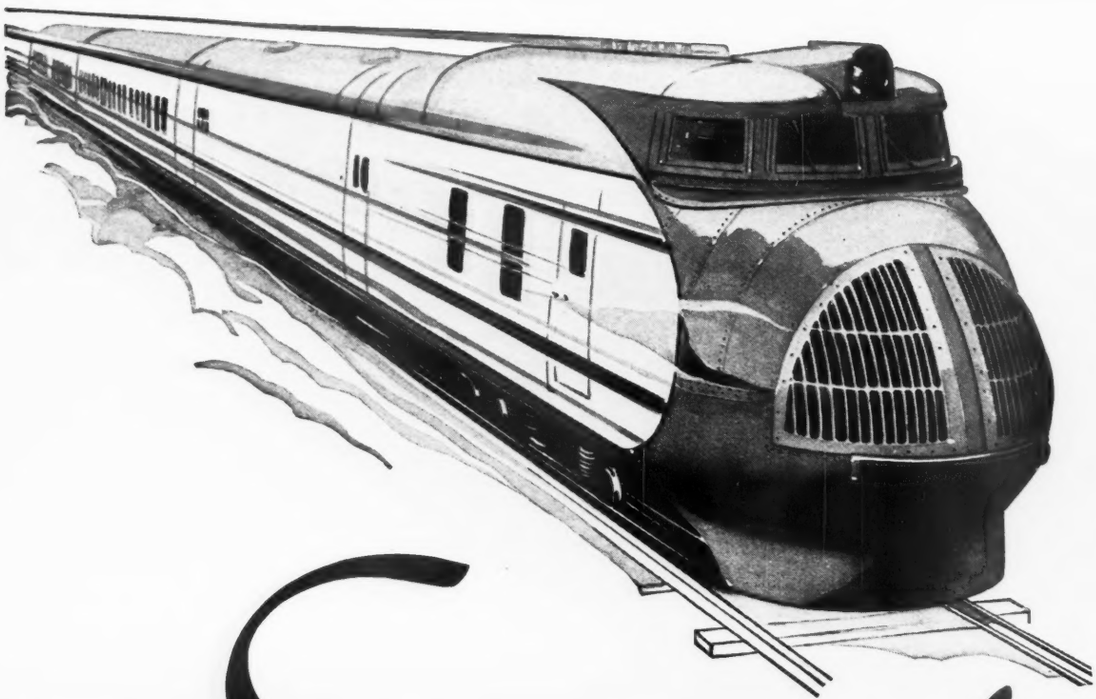
The floor space of all three above models is about three square feet. Machines stand 28 inches high and weigh approximately 450 lbs. All machines are sold f.o.b. Lynn, Mass.



Illustrating Outside Removable Electric Heating Units

AMERICAN PUBLISHERS SUPPLY

BOX 131, WEST LYNN, MASS.



Speed

As fast as new streamline trains roar across a state, or 200-mile-per-hour airplanes soar over desert and mountain . . . electrotypes by Rapid speed to meet closing dates in every state of the Union. Rapid is keyed to getting plates to destination with *speed* — distance itself, with Rapid's knowledge of traffic and routing, is of little importance.

NRA MEMBER U.S. WE DO OUR PART

Some of the country's largest concerns, who *must* have quality plates *speedily*, have — as a matter of course — turned to Rapid. Smaller concerns may think that because they are not in a city or town served by a local Rapid Branch, they cannot share this quality-speed service. Rapid especially invites these to find out for themselves. They will learn that the smallest gets the same attention and service as the largest. Perhaps your present method of handling electrotyping could be improved. It pays to look into this.

The **RAPID** *Electrotype Co.*

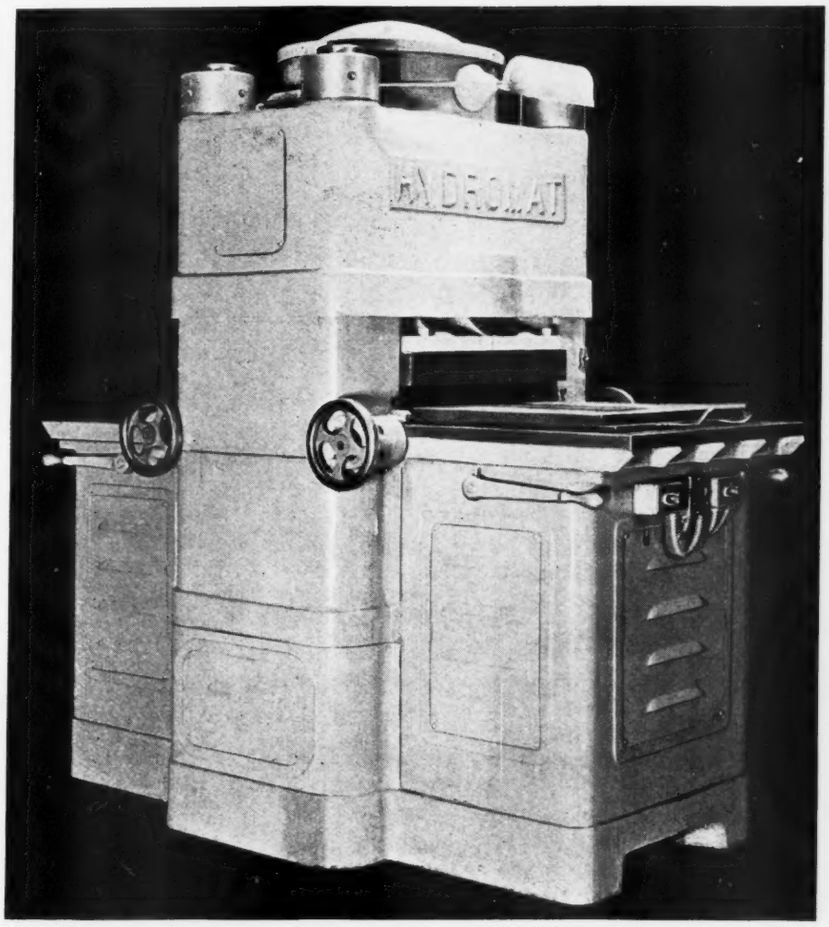
The Largest Plate Makers in the World **CINCINNATI**

Branch Offices . . . NEW YORK · CHICAGO · PHILADELPHIA

A. N. P. A.
Mechanical Conference

Be sure to visit Rapid's Exhibit, located on lobby floor, Hotel Statler, St. Louis, June 4, 5, 6.

Again We Say INVESTIGATE THE HYDROMAT



While at the Mechanical Conferences talk to our sales representative, The Goss Printing Press Company. Ask about a demonstration or write direct and let us tell you where you can see this marvelous machine at work.

We want you to see some of the features that make the Hydromat the most economical, fastest and most accurate direct pressure molding press available at such a low price.

One of these features is the special heating elements in the lower platen, a casting of special high heat conductivity, and a suction chamber in the upper platten connected to motor driven vacuum pump, concealed in the base of the press. No heat can be transmitted to the ram, which is located in the head and kept at an even temperature by a large oil tank surrounding the cylinder. Wet mats can be baked dry within three minutes, dry mats in less than two minutes.

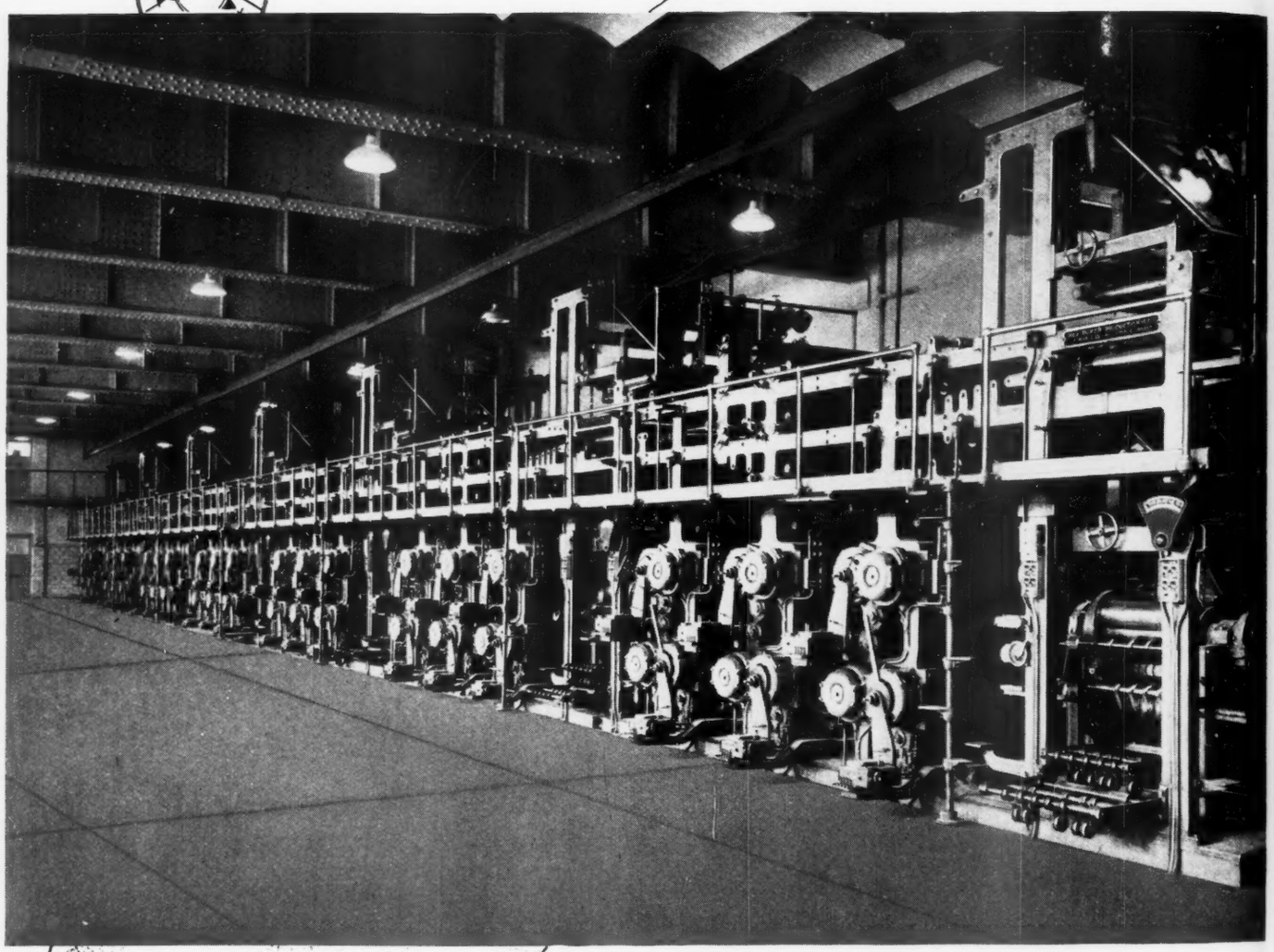
Another principle worth seeing is the patented stroke limitation which results in an absolute parallel and even pressure under all conditions and guarantees a perfect even mold. The platen cannot possibly tilt. It adjusts to 100-1000ths of an inch under full 500-ton pressure.

See these features on this marvelous molding press and examine the work turned out. It will convince the most skeptical mechanical executive that here is a machine that should be in every stereotype foundry in the country. Again we say INVESTIGATE the Hydromat at the Conferences or write direct for complete information.

ELECTRO-HYDRAULIC MACHINERY COMPANY

1025 SWEITZER AVENUE « » AKRON, OHIO

HOE



Twenty-one Hoe Super-Production Vertical-type Units and seven Super-Production Folders installed at La Prensa, Buenos Aires.

Serves the World

PRAVDA, MOSCOW

In addition to the recent domestic installations which have been completed or are being made from coast to coast, Hoe has just installed a splendid new mechanical plant of 21 Vertical Super-Production Units and 7 Super-Production Folders for La Prensa in Buenos Aires. The London Plant of Hoe has recently completed one of the most modern printing plants for Pravda in Moscow consisting of 21 of the latest Arched-Type Units and 13 Folders.

After just installing one of Hoe's newest Arched-Type Super-Production Sextuples with all the latest improvements, the Melbourne Herald has ordered an additional Octuple Press of the same type—convincing proof of the superiority of this latest Hoe machine. Thus Hoe is continuing in all parts of the World the position of leadership which it has maintained for more than a century.

Such a reputation is founded on performance. Publishers know from experience that mechanical problems can safely be entrusted to Hoe. Witness the recent Hoe contributions to the perfection of mechanical journalism such as the Super-Production Press, Instantaneous Lock-Up, Full-Speed Paster and Automatic Tension. These are representative of never-ending improvements which Hoe has and will continue to produce to make newspaper printing better in quality at higher speeds, and to do this with maximum safety and economy.

IRVING TRUST COMPANY . . . . RECEIVER IN EQUITY FOR

R. HOE & Co., Inc.

• *General Offices* •

138th St. and East River

• *New York City* •

BOSTON SAN FRANCISCO CHICAGO

Check These Points

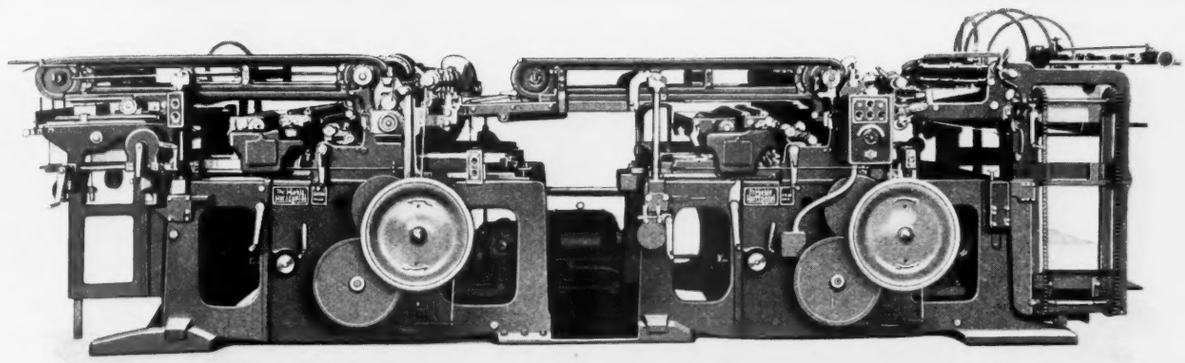
Will these Ludlow features improve the showing of your composing room with respect to economy and efficiency? Check them.

Because, with the Ludlow, a slugline is produced direct from the copy, all expense of sorts casting or type replenishment is eliminated.	
There being no type to deal with in advance of productive composition, the Ludlow system eliminates all expense for storage, case inspection, and case laying.	
The use of the Ludlow for display gives you the inestimable advantage of all-slug make-up.	
A change-over to the Ludlow system of display composition makes an important saving in the floor space required for display composition.	
With the Ludlow every issue contains only new and unbroken typefaces, italic as well as roman.	

There are many other Ludlow advantages which will repay investigation. We repeat: The Ludlow provides flexibility—efficiently. Its simplicity in operation and mechanism permits the compositor to concentrate all his attention on composition.

LUDLOW TYPOGRAPH COMPANY
2032 CLYBOURN AVENUE
CHICAGO, ILLINOIS

Set in the Ludlow Tempo family



The Miehle Tandem Horizontal

Two-color work in accurate register up to 3600 double impressions per hour.

Operating under Approved Code No. 257 for the Printing Equipment Industry and Trade

The Miehle Tandem Horizontal will print sheets up to 22 x 28.

This is an extraordinarily economical machine for any printer with a volume of work of this character. It is exceedingly convenient to handle.

If occasion should demand, the Miehle Tandem Horizontal can be converted into two single color presses by the addition of one feeder and one automatic delivery pile table.

Full details on request.

When attending the 1934 Century of Progress you are invited to visit our special display room, 608 South Dearborn Street, where you will see the latest in high-speed press equipment.

The Miehle Printing Press & Manufacturing Co.

Factory and General Offices: FOURTEENTH STREET AND SOUTH DAMEN AVE., CHICAGO

SALES OFFICES

NEW YORK CHICAGO PHILADELPHIA ST. LOUIS BOSTON SAN FRANCISCO LOS ANGELES DALLAS

ATLANTA: Dodson Printers Supply Company

OKLAHOMA CITY: Western Newspaper Union

DENVER: A. E. Heinsohn

SALT LAKE CITY: Western Newspaper Union

SEATTLE: Harry W. Brintnall Company

TORONTO: Toronto Type Founders Co., Ltd., Distributors for Canada

WITH PRIMITIVE SCORCHERS YOU MAY EXPECT PRINTED PAGES TO LOOK LIKE THIS

BECAUSE IN PRIMITIVE SCORCHERS, NO MEANS CAN BE PROVIDED FOR HOLDING A DRY MAT WHILE SCORCHING, AND THE CASTING LEVELS ARE DISTORTED. THIS DISTORTION IS REPRODUCED ON THE PRINTING PLATES. IF YOUR PRINTING LOOKS BETTER THAN THE ABOVE WITH PRIMITIVE SCORCHERS, IT MEANS THAT REMOLDS AND RECASTS HAVE BEEN MADE—OR THE PRESSMAN IS USING EXCESSIVE AND EXPENSIVE IMPRESSION, ALL OF WHICH INCREASES YOUR PRODUCTION COSTS.

STAHI NEWSPAPER SUPPLY COMPANY, INC.

1020 Crocker Street
Los Angeles, California

417 Oregonian Building
Portland, Oregon

WITH STAHI FORMERS YOU MAY EXPECT PRINTED PAGES TO LOOK LIKE THIS

BECAUSE A POSITIVE CONTROLLED VACUUM IS PROVIDED FOR HOLDING A DRY MAT TO UNIFORM CASTING LEVELS, WHILE SCORCHING, AND UNIFORM PRINTING LEVELS ARE PRODUCED ON PRINTING PLATES. REMOLDS, RECASTS, EXCESSIVE AND EXPENSIVE IMPRESSION ARE ELIMINATED, REDUCING YOUR PRODUCTION COSTS, BESIDES, YOU PRINT A BETTER LOOKING NEWSPAPER.

AGENCIES

Goss Printing Press Company
Chicago, New York, San Francisco

Toronto Type Foundry Company
Toronto, Montreal, Winnipeg, Canada

Wood Flong Corporation
Hoosick Falls, N. Y.

A. M. Carneiro & Co.,—South America
152 West 42nd Street, New York, N. Y.

Certified Dry Mat Corporation
New York City, N. Y.

Goss Printing Press Co.,—London, Eng.
European Manufacturers

NEW YORK Herald Tribune

WINS

HIGHEST AWARD AGAIN WITH 100%

GOODYEAR

EQUIPMENT

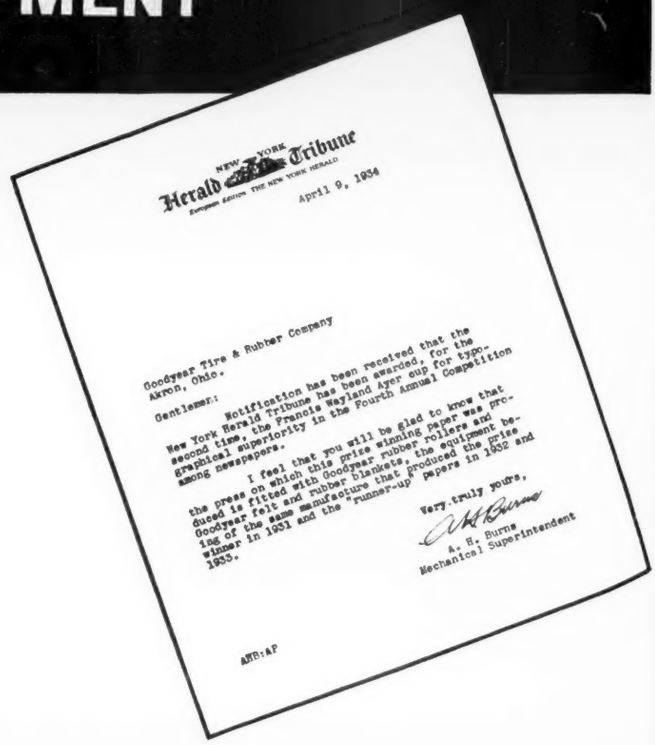
COMPETING against 1485 other newspapers, the New York Herald Tribune has again been awarded the Francis Wayland Ayer Cup for the "Best Printed Newspaper" in 1934.

Victor previously in 1931, runner-up in 1932 and 1933, the Herald Tribune is the only newspaper to be "in the money" every year since this award was instituted!

In congratulating this great newspaper on so fine an achievement, Goodyear takes pride in the fact that during all four years its presses have been equipped 100% with

GOODYEAR FELT BLANKETS
GOODYEAR RUBBER UNDERPACKING
GOODYEAR INK ROLLERS

If you would like complete information about these products that make for sharp, clean, clear, economical printing, write Goodyear, Akron, Ohio, or Los Angeles, California. Branches in all principal cities.



NEW YORK Herald Tribune
European Edition THE NEW YORK HERALD

April 9, 1934

Goodyear Tire & Rubber Company
Akron, Ohio.

Gentlemen:

Notification has been received that the New York Herald Tribune has been awarded, for the second time, the Francis Wayland Ayer cup for typographical superiority in the Fourth Annual Competition among newspapers.

I feel that you will be glad to know that the press on which this prize winning paper was produced is fitted with Goodyear rubber rollers and Goodyear felt and rubber blankets, the equipment being of the same manufacture that produced the prize winner in 1931 and the "runner-up" papers in 1932 and 1933.

Very truly yours,

A. H. Burns
Mechanical Superintendent

AHB:AP

THE GREATEST NAME IN RUBBER

GOODYEAR

NRA

NOW YOUR PRESSES CAN BE EQUIPPED COMPLETELY WITH GOODYEAR PRODUCTS

Associate Member

National Printing Equipment Association, Inc.

A Technical Magazine for Mechanical Executives in the Newspaper and Commercial Branches of the Printing Industry

Published by
DON WILL

Edited by
MAC SINCLAIR

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Printing EQUIPMENT *Engineer*

Trade Mark Registered U. S. Patent Office

Volume 48 *Number 3*

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Share Your Knowledge With Others

The key men in your organization will appreciate looking over the pages of this magazine. Perhaps one of them will be able to put some particular technical idea to good use.

Place a check mark in each square for attention of the department head or assistant whom you wish to look over special articles in this issue.

☐ *Production Manager*

☐ *Foreman Lithographing Department*

☐ *Mechanical Superintendent*

☐ *Superintendent Stereotype Foundry*

☐ *Superintendent Electrotype Department*

☐ *Composing Room Superintendent*

☐ *Superintendent Press Room*

☐ *Chief Composing Room Machinist*

☐ *Bindery Foreman*

☐ *Monotype Department*

☐ *Manager*

☐ *Photo Engraving Department*

☐ *Purchasing Agent*

Can This Operator Follow Copy?

The blindfolded operator, of course, cannot read copy. Perhaps if copy were transmitted by sound he could set some type. Yet, how could he verify matrices in the assembler? And how could he know when lines were full enough to cast?

Removal of the blindfold would permit him to read copy and to check line justification. *But even without the blindfold this keen-eyed operator has difficulty in verifying lines of ordinary brass matrices.*

Operators who attempt to verify assemblies of ordinary brass matrices usually are as handicapped as blindfolded persons who try to read printed matter.

It is no longer necessary for operators to work with unreadable matrices—nor to lose 12% of their time in error correcting.

By having present matrices treated with the Black and White process—*which makes reference characters plainly visible in the assembler*—a large proportion of error expense can be eliminated.

There is no guess work about this. We *guarantee* a 25% reduction in all errors in original machine composition and *prove this saving* before you pay us a penny.

Matrix Contrast Corporation

Empire State Building New York City

Sole licensees of the Percy L. Hill Black and White Patent.

PRINTING
EQUIPMENT
ENGINEER

for June 1934

He Has His Day

A HAPPY purpose is served in devoting the first day's sessions of the St. Louis A. N. P. A. Mechanical Department conference to the problems associated with production of the smaller daily newspaper members. Quite often the mechanical executive from the smaller plant has felt that his peculiar difficulties were being overlooked.

Newspaper publishing in the smaller cities, in many respects, is exactly similar to publication of metropolitan journals. Both must be manufactured under intensive conditions. The similarity is different, however, in the equipment, and therefore, the means used to produce the paper. The mechanical executive in the smaller plant frequently is called upon to exercise considerable ingenuity in overcoming obstacles which do not loom up in the larger plant. In some cases this is due to the type of equipment used and to the further fact that not as much research or technical data is available for reference purposes.

It is the hope of *Printing* EQUIPMENT *Engineer* that at all succeeding conferences a generous portion of the A. N. P. A. Mechanical Conference programs will be given over by the mechanical committee to the problems of mechanical executives in the smaller cities.

The meetings will be held in the Adam Room on the 17th floor of the Hotel Statler. This is the top floor of the hotel and the room has windows on both sides, which should insure ample ventilation. The registration desk will be on this floor adjacent to the elevator.

GOLF

Arrangements have been made through the Statler Hotel that those who wish to play golf have the privileges of the Algonquin Golf Club. The greens fees are $1.50 weekdays, $2.50 Sundays and holidays.

EXHIBIT OF COLOR ADVERTISING

An extensive collection of samples of color advertising in newspapers has been obtained and as much of this material as space permits will be on display.

MUNICIPAL OPERA

One of the outstanding entertainment attractions of St. Louis is the Municipal Opera, given in Forest Park in the open air theater which has a seating capacity of 10,000. The opera will open this year on Monday evening, June 4.

The St. Louis publishers, through F. D. McDonald, secretary, St. Louis Newspaper Publishers' Association, extend an invitation to all newspaper delegates to attend the opera on the opening night as their guests. Seats have been reserved and may be obtained at the convention registration desk.

The complete program is as follows:

MONDAY, JUNE 4, 9:45 A. M.

Chairman—Russell B. Miller, Superintendent Composing Room, Bloomington *Pantagraph.*

Address of Welcome—Elzey Roberts, Publisher, St. Louis *Star-Times.*

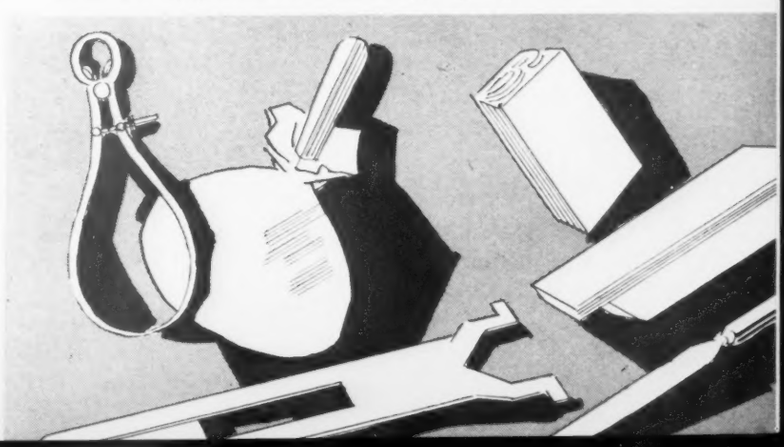
Small Newspaper Composing Room—Louis B. Buisch, Production Manager, Hornell *Tribune-Times.*

Discussion.

MONDAY, 2:00 P. M.

Chairman—Chas. Frederickson, Mechanical Superintendent, Mt. Vernon *Argus.*

Small Newspaper Press and Stereotyping Departments.



TUESDAY, 9:30 A. M.

Chairman—Leon A. Link, Superintendent, Composing Room, Des Moines *Register* and *Tribune.*

The Modern Newspaper Composing Room, Its Equipment and Operation—Edwin H. Evers, Mechanical Superintendent, St. Louis *Globe-Democrat.*

Discussion.

Recent Improvements in Keyboard Line Composing Machines—Fred C. Grumman, Representative of the President, Mergenthaler Linotype Company.
H. B. Freund, Chief Engineer, Intertype Corporation.

Russell B. Miller, Superintendent of the Composing Room, Bloomington (Ill.) Pantagraph, *will preside at the Monday Morning Session, June 4, A. N. P. A. Mechanical Conference to be held in St. Louis.*

The Intertype Corporation's contribution to the Tuesday morning session will be a sound moving picture film covering recent improvements in Intertype machines. This has been prepared for our Conference and is said to be the only sound film in the printing industry. The showing of this film will require 30 minutes.

Discussion.

Photo-engraving.

TUESDAY, 8:00 P. M.

Chairman—W. J. Phillips, Plant Superintendent, Oklahoma City *Oklahoman* and *Times.*

Stereotyping and Presswork—T. P. Beacom, General Mechanical Councillor, Hearst Newspapers.

Discussion.

WEDNESDAY, 9:30 A. M.

Chairman—H. D. Rindsberg, Mechanical Superintendent, Cincinnati *Enquirer.*

Advertising Agency Session—Harry Gamson, Production Manager, Erwin Wasey & Co., Chicago. L. C. Michaels, Advertising Department, Cleveland *Plain Dealer.*

Discussion.

WEDNESDAY, 1:30 P. M.

Chairman—S. H. Kauffmann, Assistant Business Manager, Washington *Star.*

Newspaper Press Drives—E. H. Laabs, Engineering Department, Cutler-Hammer Inc. W. L. Wright, Industrial Engineering Department, General Electric Company. A. J. Cline, President, Cline Electric Mfg. Co.

Discussion.

Miller Moves Chicago Office

The Miller Printing Machinery Co. has announced the removal of its Chicago branch office to the Fisher Bldg., Van Buren and Dearborn Sts. William H. Parker is manager.

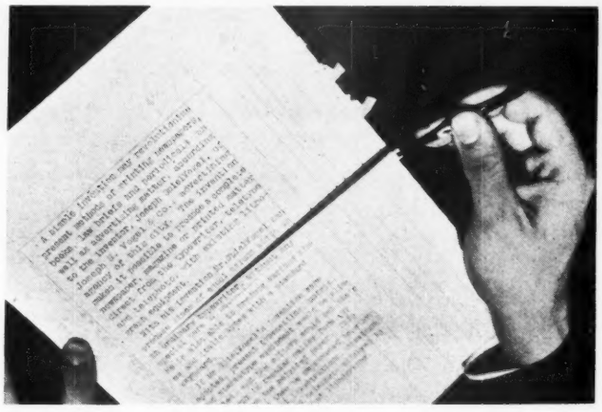
New Paper Permits Spacing Lines of Equal Length

SO FAR as the printer is concerned, a new invention which has been announced recently by Joseph SpielVogel, an advertising man of Newark, N. J., may be of considerable use in offset-lithography for reproducing copies of speeches, law briefs, insurance, market reports, etc.

At the present time we do not share the ambitious claims of the inventor that this process, through the medium of $100 typewriters, may be the means of completely eliminating expensive composing and stereotype equipment in equipping small newspaper plants at an outlay of less than $10,000 for lithographing equipment.

By means of a specially prepared typewriter paper it is possible to stretch each line after typing on a typewriter to the desired length so that all typewritten lines on the sheet will be of equal length.

The invention consists of the production of a sheet of finely corrugated paper having horizontal parallel slits at intervals equal to the distance between the lines on the typewriter, which paper is cemented to a backing sheet. The typist writes the manuscript on the corrugated side between the slits in the conventional manner without any effort at alignment of the right-hand side of the lines. Copy is aligned after it is taken out of the machine by lifting the right end of the lines from the backing sheet and stretching each line until the last word aligns with the pre-determined width. The special cement used to attach the lines, according to the inventor, remains permanently plastic.



Technique of the SpielVogel Type-Aligning Paper. In manipulating each line of type matter, the end of the strip is raised from the backing sheet with a pair of tweezers and is stretched to the desired length according to a predetermined limit indicated on previously prepared sheets on which the copying is done. In this photograph the lines are being "justified" to 4½ in. width which corresponds approximately to a 27-em measure.

of a sheet of finely corrugated paper having horizontal, parallel slits at intervals equal to the distance between lines on the typewriter, which paper is cemented to a backing sheet. The typist writes the manuscript on the corrugated side between the slits in the conventional manner, without any effort

Specimen reproduced same size from typing done on Vogel Type-Aligning Paper. According to the inventor, the characters do not appear to become distorted when the lines are stretched a little, but the spaces between each letter and word are widened proportionately. Mr. SpielVogel claims that the aligning operation can be accomplished with little loss of time after the copy has been typed.

It is suggested that advertising men will find various uses for this invention since unusual type layouts may be produced quickly by taking a proof of printing type on the paper and then stretching it to fit any odd shapes.

Difference In Press Packings

For First and Second Impressions on Newspaper Presses and Elements Which Must Be Taken Into Consideration

By E. P. DOYLE*

Mr. Doyle Gives Some Concrete Data For Determining What Kind of Packing to Apply on a Newspaper Press.

THE proper packing of impression cylinders on newspaper presses is the most important factor in high production and quality printing. On these presses, quality and quantity go hand in hand. If the correct gauge and type of blanket is used, the paper will be subject to the least possible strain from the time it leaves the roll until it is cut off in the folder, the finish of the paper will not be damaged and the paper fibers will not be broken. All of this will result in a good job of printing, high production, minimum wear on stereotype plates and long life for press blankets.

Several conditions must be taken into consideration before deciding on the kind of packing best suited for any particular press:

(1) How loose are the cylinder bearings?

(2) At what speed is the press operated?

(3) Are there any sprung cylinders?

(4) Are the stereotype plates held within 0.003 in. and do they fit the plate cylinders? Do the plate lockups hold the plates down on the cylinder on speed?

*Mechanical Superintendent, The Toledo *Blade*, Toledo, Ohio.

If the cylinder bearings have from 0.012 in. to 0.015 in. clearance, the press should not be operated at more than 30,000 per hour if corks and drawsheets are used for packing. If cork and felt are used, the press speed may be increased slightly without showing cylinder jumps.

On old-style 24,000-per-hour presses, a tolerance of 0.020 in. in the bearings may not cause trouble, but no press should be operated with more than 0.020 in. wear in the cylinder bearings.

If there is a sprung cylinder on the press the obvious remedy is to get a new cylinder, true up the sprung one by regrinding, or build up the low places with overlays. If a sprung cylinder is turned half around the low and high places will disappear sometimes, or become less pronounced.

PACKING THE PRESS

Packing a newspaper printing press is a controversial subject. The difference of opinion among mechanical executives we suppose, exists, because of the varying conditions in different newspaper plants in the way of stereotype plates, make and condition of the press and the speeds at which the presses are operated.

At any rate, here is an article by E. P. (Gene) Doyle, a semi-hard packing enthusiast, who gives data obtained after considerable experiment and research.

We use the term "semi-hard packing" because it is just possible that the newspaper of the future may be printed from harder packings than are known today.

With sprung cylinders, as with uneven plates and poor lockups, softer packing must be used which will allow sufficient impression to go down in and print the low places. This type of packing could consist of a bottom blanket of rubber with a top blanket of felt not too much repressed.

At the *Blade* our plates are shaved to 0.440 in. which causes them to "snug" the plate cylinder, thereby easing the strain on the plate lockups.

When the impression cylinder is correctly packed, its circumference will be from 3/16 in. to ¼ in. over that of the plate cylinder. These measurements should be taken after 500,000 impressions, on new packing.

To deviate either way from this difference in circumference will throw off the pitch line of the cylinder gear, and cause the packing on the impression cylinder to pull from the pin side if overpacked, and from the reel side if underpacked. Either of these conditions would cause poor printing and paper breaks.

As to the type of blankets to use, I prefer three-piece packing on second impression, that is, two corks and a draw-sheet. This gives quite a hard surface on which to print, therefore heavy impression may be carried without perforating the paper; the cost is less than that of felt, and the blankets do not bolster.

Barring accidents, this packing should give about 20,000,000 impressions, with a change of drawsheets each 3,500,000 impressions.

Continued on page 74

New Home for STAR-TIMES Is a "Natural"

Location Over Subway Development of Illinois Terminal Railway and Downflow of Production Are Features

By L. J. CHASE*

THE new plant of the St. Louis *Star-Times* has been designed and built to fit and serve efficiently the various functions of an afternoon daily publication.

The building occupies an air-tight site of 142 ft. by 168 ft. over the subway development of the Illinois Terminal Railway. This development provides railway freight service directly to the platform and elevators of the building and is directly connected by this same platform with the Terminal freight warehouse across the street from the plant, thereby giving equally direct freight service to our building for less than carload shipments. A newspaper receives considerable freight in small shipments and the service afforded this plant will prove to be economical by the elimination of transfer charges.

The building consists of a basement and five stories, the basement occupying the entire area of the site but the five stories above the basement and street level are reduced in width to provide a private driveway on one side of the building which is 30 ft. wide including the delivery truck platform for quick access to the various editions.

Elzey Roberts, Publisher, St. Louis Star-Times, *During Whose Administration the New Plant Has Been Erected. Mr. Roberts Is Assisted by General Manager Thomas Ryan and Business Manager Arthur E. Kaye. Mr. Kaye Has Been Associated with the* Star-Times *Nineteen Years.*

The departments are arranged to provide direct contact for the transaction of personal business and the handling of the various kinds of copy and material.

*Production Manager, St. Louis *Star-Times*, St. Louis, Mo.

Architects' Drawing (Frank D. Chase, Inc.) of new home of St. Louis Star-Times *as it appears after completion. This view impresses one that the building is a substantial structure, entirely suited to the purpose for which it has been built over the Terminal Railway.*

EXECUTIVE AND EDITORIAL DEPARTMENTS ON TOP FLOOR

The fifth or top floor is devoted entirely to the executive and editorial functions of the paper with the news room occupying a central location, around which are the telegraph services, the financial editor's department, the sports department, the editorial writers, cartoonist, etc. The photograph department and the photo-engraving department are located on this floor under the direct control of the editorial department. The executive offices of the publisher and general manager, Thomas Ryan, complete the layout on this floor.

ARRANGEMENT OF ENGRAVING DEPARTMENT

The engraving department is arranged so that the production from copy to finished cut makes a complete circle, coming back to the original starting point. The

copy passes from the receiving desk to the cameras, the plates are delivered directly to the stripping department adjacent to which are the printing frames, and the zinc plates are passed into the etching room which is equipped with two rocking tubs and an Axel etching machine. The etched plate is then delivered directly to the finishing room and the finished cut passes over the foreman's desk at the point where the copy started so that proof and copy are compared before delivering the finished cut to the composing room on the floor below by means of an electrically-operated dumb waiter.

The photograph department is provided with two dark rooms, each of which is so arranged that one or two men may operate in the room at the same time. This is accomplished by separating the developing from the printing so that both

Lewis J. Chase, Production Manager of the St. Louis Star-Times, *is assisted by the mechanical executives shown in the inset strip. Most of Mr. Chase's assistants have been associated with the firm over a considerable period of time.*

operations can be carried on at the same time without interference due to the difference of light requirements. A large photo studio room will permit the handling of fairly large groups of people. A dressing room is provided for the convenience of visitors to the photograph gallery.

THE COMPOSING ROOM

On the fourth floor the composing room and the job and plate stereotype departments are located. Copy and cuts are conveyed from the editorial department to the composing room by means of gravity or rapid and efficient copy carrying devices designed especially for the service they are to render. Direct access between the composing room and the news room is provided by means of a spiral stairway between these departments, thus avoiding loss of time and effort.

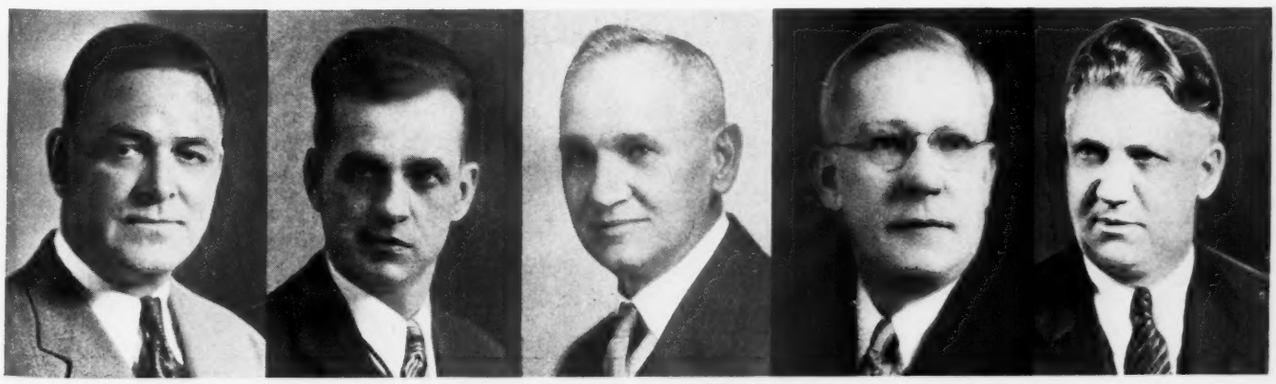
Delivery elevation of the new St. Louis Star-Times *building which has been erected on an air-tight site over the subway development of the Illinois Terminal Railway. Notice the spiral bundle conveying chutes which deliver papers from the mailing department on the fourth floor directly to platform and trucks on the street level.*

The composing room occupies nearly the entire floor and is equipped with thirty-three line-casting machines arranged along the south side of the room, two rows of which form the news alley. The machines face a wide general aisle, affording rapid and direct contact for the machine operators with the copy desk and dump. The headletter machines are grouped so as to afford direct contact with the copy desk. Two machines are set apart adjacent to a special telegraph service for the handling of sport events, the arrangement being such that lines can be set by the machine operator, directly from the returns as they come over the wire and are read to the operator by the instrument man.

There is space on the floor for forty-eight or more single-page makeup trucks. The news copy comes from one side of the group and the ad copy from another side, the finished forms passing directly to the moulding machine by short movements.

The ad makeup department is served by a monotype department consisting of seven machines for monotype and material casting.

MEN WHO HAVE CHARGE OF MECHANICAL DEPARTMENTS AT ST. LOUIS *Star-Times*



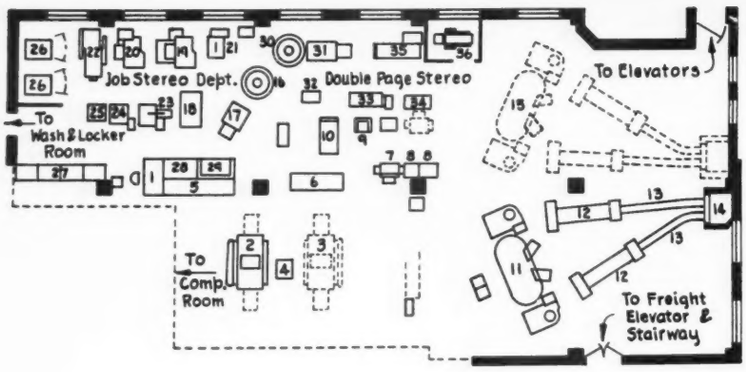
J. WALLACE WOOD
Foreman Stereotype Department
Fifteen Years Service

JAS. F. WILLIAMS
Foreman Photo-Engraving Department
Seventeen Years Service

HENRY BOECKE
Foreman of the Composing Room
Thirteen Years Service

FRED W. SCHOEN
Foreman of the Pressroom
Nineteen Years Service

B. H. BRUNS
Foreman Mailing Department
Twenty-Six Years Service



KEY TO FLOOR PLAN LAYOUT OF ST. LOUIS *Star-Times* STEREOTYPE DEPARTMENT

1. *Foreman's Desk*
2. *Mat Roller*
3. *Future Mat Roller*
4. *Mat Storage*
5. *Mat Storage*
6. *Mat Storage Humidor*
7. *Stahl Autoformer*
8. *Scorcher*
9. *Trimmer*
10. *Trim and Pack*
11. *Wood 10-T. Autoplate*
12. *Wood Auto-Shaver*
13. *Conveyor*
14. *Plate Drops*
15. *Future Autoplate*
16. *Job Metal Pot*
17. *Job Casting Box*
18. *Job Table*
19. *Saw and Trimmer*
20. *Trimmer*
21. *Saw*
22. *Shaver*
23. *Band Saw*
24. *Drill and Jig Saw*
25. *Table*
26. *Routers*
27. *Finishing and Delivery Tables*
28. *Job Packing Table*
29. *Flat Roaster*
30. *Double Plate Pot*
31. *Double Page Casting Box*
32. *Plate Trim Saddle*
33. *Shaver*
34. *Cooler Tank*
35. *Tail Cutter*
36. *Curved Router*

STEREOTYPE DEPARTMENT LAYOUT

The stereotype department is separated from the composing room by a curtain wall which comes to within seven feet of the floor and is so ventilated that fumes from this department will not be carried into the composing room. The job stereo work is produced from a two thousand-pound job pot and the finished work is passed over the finishing bench directly to the advertising makeup section of the composing room. The plates for the presses are cast in this same department so that the job and plate work are both under the direct supervision of the stereotype foreman.

Plates are conveyed automatically from the finishing machinery to the presses by means of gravity conveyors, gravity plate drops and power conveyors in the pressroom. They are returned to the stereotype department from the pressroom by means of hand-lift trucks and skid platforms. The time between the stereotype and the pressroom floors is an interval of less than seven seconds. Plates are produced in two Wood Automatic Casting machines which are installed in a specially constructed electrically heated steel stereotype pot of ten-ton capacity.

A major part of the third floor is devoted to the display advertising, promotion and art departments so that they will have ready and quick access to the composing room for the transmission of copy and for personal contact in matters pertaining to advertising makeup.

FIRST AND SECOND FLOOR LAYOUTS

The second floor is occupied by the classified advertising department, the telephone solicitors, a general stock room and the electric service for press control and building operation and the general plant maintenance department.

The general business office and the circulation department are on the first floor for the greatest convenience of the general public.

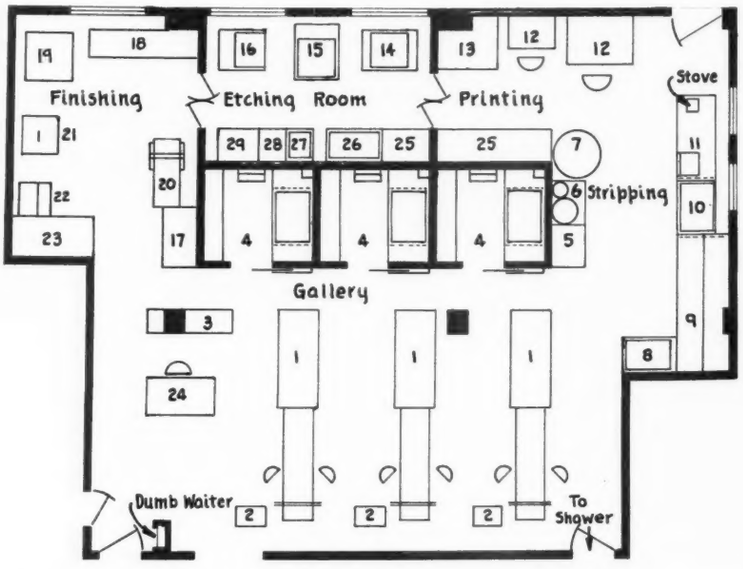
THE PRESSROOM

The pressroom is on the first floor and utilizes the full height of the first and second floors of the building. There are two lines of the latest design of unit type presses. One line consists of eight units and two double folders of Duplex Super-Duty Presses. The second line consists of eight units and two double folders of Hoe Super-Speed Presses. Each folder is equipped with upper formers and is capable of delivering 48 pages in four sections straight run at 44,000 per hour or 96 pages in eight sections collect run at a speed of 22,000 per hour. One of the regular printing units of each press is arranged for one extra color run.

The presses are equipped with the latest design Cline reels with a capacity for rolls up to 40 in. diam. These reels are equipped with automatic electric tension control devices. Automatic web severing devices immediately below the press cylinders are operated from paper break detectors so as to prevent the wrapping of paper around the press cylinders as so often happens in case of a web break, thus eliminating the possibility of damage from this source and the usual loss of time.

DUPLEX PRESS DRIVEN BY CLINE-WESTINGHOUSE EQUIPMENT

The line of Duplex press units is driven by the latest type of Cline-Westinghouse individual unit motor drives through silent chain direct from motor pinion to the press cylinder which eliminates the long drive shaft with the numerous gears and vertical shaft driving to the press units. The control of these motors is so arranged that they may be

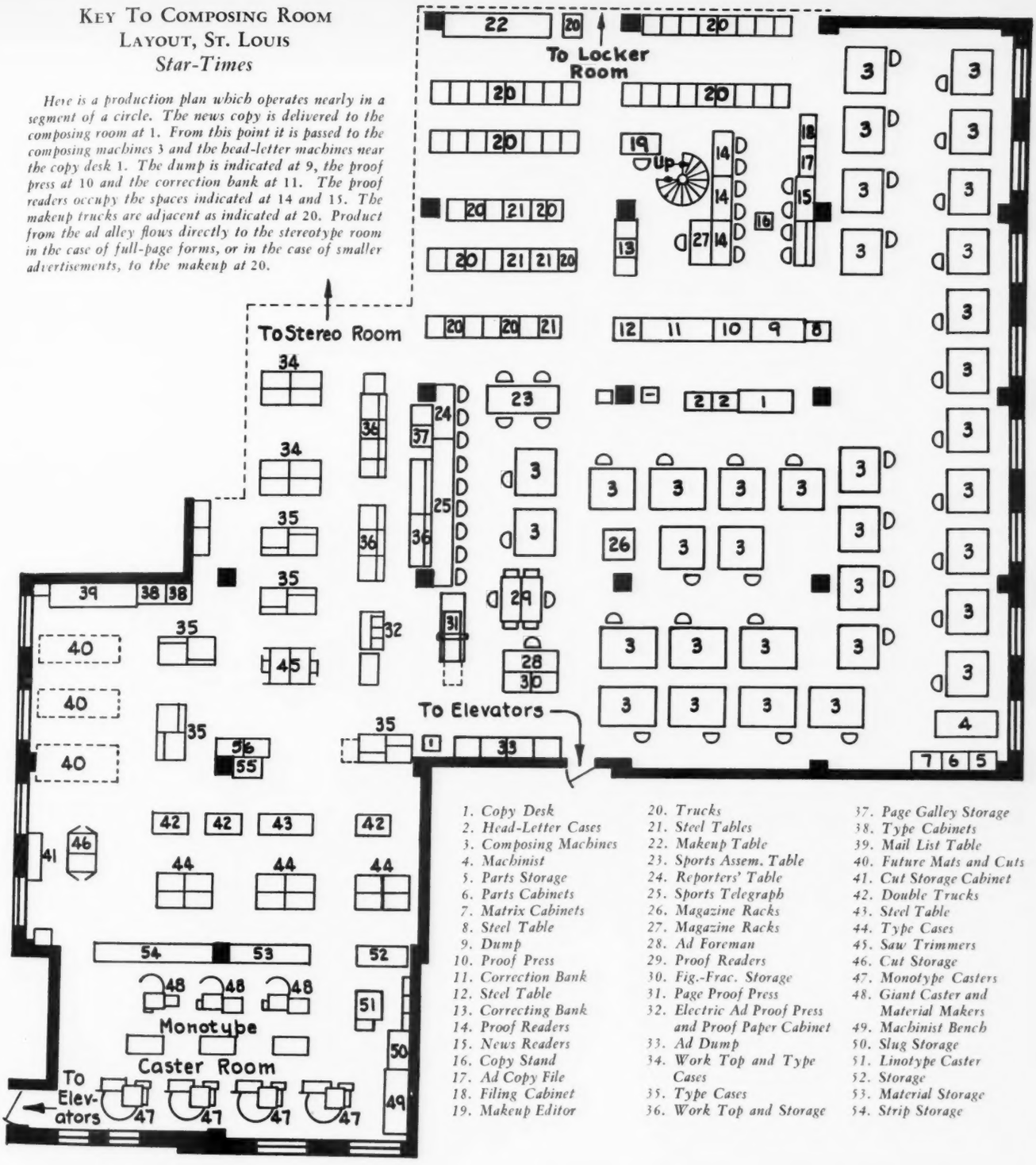


KEY TO FLOOR PLAN LAYOUT, PHOTOENGRAVING DEPARTMENT OF ST. LOUIS *Star-Times*

1. *Cameras*
2. *Copy Tables*
3. *Copy Rack*
4. *Dark Rooms*
5. *Negative Dryer*
6. *Filter and Evaporator*
7. *Plate Whirler*
8. *Glass Washing Sink*
9. *Bench and Racks for Glass Plates*
10. *Sink*
11. *Stripping Bench*
12. *Printing Frames*
13. *Roll-Up Bench*
14. *Rocking-Etching Tub*
15. *Robertson Etching Machine*
16. *Axel Holstrum Etching Machine*
17. *Table*
18. *Finishing Bench*
19. *Router*
20. *Proof Press*
21. *Saw*
22. *Foot Shear*
23. *Bench*
24. *Foreman*
25. *Benches*
26. *Sink*
27. *Stone*
28. *Cooler*
29. *Powder Oven Booth*

Key To Composing Room Layout, St. Louis *Star-Times*

Here is a production plan which operates nearly in a segment of a circle. The news copy is delivered to the composing room at 1. *From this point it is passed to the composing machines* 3 *and the head-letter machines near the copy desk* 1. *The dump is indicated at* 9, *the proof press at* 10 *and the correction bank at* 11. *The proof readers occupy the spaces indicated at* 14 *and* 15. *The makeup trucks are adjacent as indicated at* 20. *Product from the ad alley flows directly to the stereotype room in the case of full-page forms, or in the case of smaller advertisements, to the makeup at* 20.



1. *Copy Desk*
2. *Head-Letter Cases*
3. *Composing Machines*
4. *Machinist*
5. *Parts Storage*
6. *Parts Cabinets*
7. *Matrix Cabinets*
8. *Steel Table*
9. *Dump*
10. *Proof Press*
11. *Correction Bank*
12. *Steel Table*
13. *Correcting Bank*
14. *Proof Readers*
15. *News Readers*
16. *Copy Stand*
17. *Ad Copy File*
18. *Filing Cabinet*
19. *Makeup Editor*
20. *Trucks*
21. *Steel Tables*
22. *Makeup Table*
23. *Sports Assem. Table*
24. *Reporters' Table*
25. *Sports Telegraph*
26. *Magazine Racks*
27. *Magazine Racks*
28. *Ad Foreman*
29. *Proof Readers*
30. *Fig.-Frac. Storage*
31. *Page Proof Press*
32. *Electric Ad Proof Press and Proof Paper Cabinet*
33. *Ad Dump*
34. *Work Top and Type Cases*
35. *Type Cases*
36. *Work Top and Storage*
37. *Page Galley Storage*
38. *Type Cabinets*
39. *Mail List Table*
40. *Future Mats and Cuts*
41. *Cut Storage Cabinet*
42. *Double Trucks*
43. *Steel Table*
44. *Type Cases*
45. *Saw Trimmers*
46. *Cut Storage*
47. *Monotype Casters*
48. *Giant Caster and Material Makers*
49. *Machinist Bench*
50. *Slug Storage*
51. *Linotype Caster*
52. *Storage*
53. *Material Storage*
54. *Strip Storage*

grouped for operating up to six units into either folder. The Hoe presses are driven by the usual type of drive shafts from either or both of two double motor press drive units of 130 h.p. each.

Papers are conveyed from each of the folders to the mailing room on the third floor immediately above the press room where the papers are delivered to bundling tables and thence by belt conveyor to gravity spiral chutes which convey the papers directly to the delivery trucks at the platform below. Facilities are also available for bundling papers in the press room, passing them directly to motorcycle delivery men without the necessity for going through the mailing room.

The delivery platform is unique in that it is arranged in saw-tooth fashion for rapid ingress and egress of trucks at a considerable saving of space and time and without requiring the complicated efforts of maneuvering into position.

INK STORAGE

Ink is stored in two large tanks below the driveway, convenient for tank wagon delivery. One can be filled while the other is serving the press. The ink is circulated through the tank and distributing pipe line by a small pump and the system is under air pressure for proper delivery to the fountains. The constant circulation through the pipe line and the ink storage tank prevents settling of the ink.

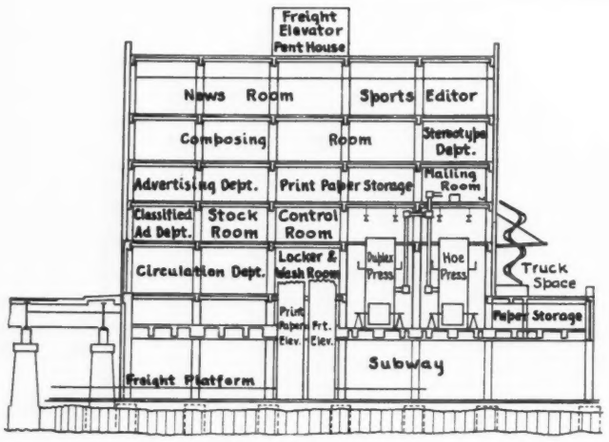
PAPER RECEPTION AND STORAGE

The paper is received by carload at the platform in the subway and delivered by automatic hoist to either of the storage

floors. This hoist is fully automatic in its operation and is interlocked with safety devices at each of the unloading points so that there is no chance of accident. This same hoist is used for delivering paper from the storage on third floor back to the reel room level.

Paper is stored in tiers by means of electric tiering machines. The space at one end of the pressroom, reserved for future expansion of the presses, will be utilized for storage of paper which will be handled to the higher tier levels by means of an electric hoist and monorail.

Print paper is stored in the basement of the building on the reel room floor level and also on the third floor in the space



Cross-section of new home for St. Louis Star-Times. *All of the mechanical departments are indicated except the engraving room which is located on the fifth floor adjacent to the editorial department.*

that is reserved for future expansion of the advertising and mechanical departments of the plant.

The demand for more space for the departments may be met by removing paper storage from the upper floor, or by adding two additional stories to the building, or by extending the building to the north over the driveway and delivery platform.

The demand for increased paper storage, due to increased circulation of the paper, can be met readily by utilizing the Terminal Warehouse adjacent to the plant.

ADVANTAGES OF PLANT PLANNING

Most of the important services of the plant are so arranged that they may be carried out by either of two methods, for example, print paper may also be handled on the regular freight elevator, stereotype plates are delivered to the pressroom over either of two independent plate drops, the stereotype plate-casting equipment is furnished with cooling water from either of two pumps which operated from a recovery system or directly from the City water supply system, ink is delivered by either air or pump pressure and two machines of the same type are available for practically each operation to the stereotype department.

THE REEL ROOM

In the reel room each unit has its own paper reel arranged for three rolls and each reel is equipped with ball bearing spindles which eliminate the customary reel shafts.

Each roll stand is equipped with two motors, one for margin adjustment and one for roation of the spider arm for loading the paper directly from the dollies. Each motor is operated through an automatic controller from push-button stations for forward and reverse direction.

CLINE AUTOMATIC ELECTRIC TENSIONS

Cline Automatic Electric Tensions are employed and make possible high-speed operation with a minimum amount of paper waste. Each reel has a tension device which is primarily a set of wide straps bearing frictionally on the roll of paper being drawn into the printing unit. They are connected to the floor through springs and at the top connected to a cam on a common shaft which in turn is connected to an electric motor. Current is impressed on this motor during the entire run and as long as the current value remains the same the tension remains constant. These tension units are interlocked with the press control in such a way that when the press is decelerated from any running speed there is an additional amount of tension put on the roll automatically to keep it from running ahead. Likewise, when the press is stopped with the emergency button a great tension is put on the rolls automatically and prevents the roll from running ahead. Each tension controller has an indicating light which advises when a paster is coming through from the reel room.

Importance of Assembler Star Tension

One of the major problems associated with the maintenance of line-casting machines consists in obtaining and holding the proper tension and lubrication of the assembler star wheel friction spring.

Little attention is paid to assemblers in many composing rooms because the friction arrangement is in a somewhat inaccessible place. Nothing is more distracting to an operator than to work on a machine, the assembler of which causes matrices to jump out on the floor, or in the other extreme, matrices do not settle down properly. No chute finger can be expected to hold down matrices in the assembler when the star wheel tension is too great.

If the spring tension of the star wheel is too weak, matrices will not settle properly in the assembler. On the other hand, if the tension is too stiff, matrices will bound out of the assembler or will cause the assembler slide to advance farther than the distance which is normally represented by the setwise thickness of the matrix body.

The tension of the star wheel spring should be adjusted, either by "setting" the spring or "rolling" it until the star wheel will assemble a quad line smoothly and without hesitation.

The difficulty in holding the adjustment of a brass spring is in the inability of brass to "stay put." It seems that a steel or bronze spring serves the purpose much better and has the advantage of retaining tension to which it has been adjusted.

The friction disk should be lubricated with graphite grease rather than machine oil, because oil soon flows away, leaving the disk and pinion in a dry condition.

If someone would devise a star wheel friction arrangement mounted at the front of the assembler, operating conditions would be improved greatly and the effort to create such a device would be well worth while.

Brown With Timken

Ralph P. Brown, a well-known publicity man, has joined the advertising department of The Timken Roller Bearing Company and The Timken Steel and Tube Company.

Mr. Brown is a graduate engineer and has had a wide experience in writing for the industrial press. It will be his duty to cooperate with business and technical press editors in the preparation of articles dealing with alloy steels and bearings.

A. T. F. Ready With Eagle Emblems

The American Type Founders Sales Corporation, through Manager W. A. Duboc of the type merchandising department, has announced completion of a series of new NRA code Blue Eagle emblems in sizes from 18 to 144 points. The two-color emblems are in preparation and will be completed shortly.

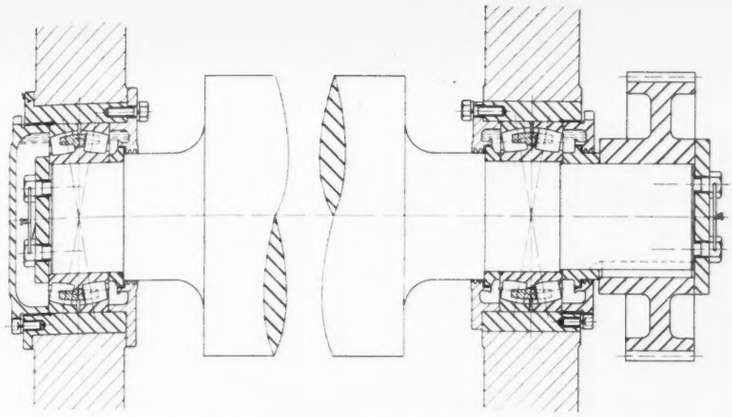


Fig. 1.—Clamping the two parts of the outer race between the end covers removes all radial and axial looseness and an initial load can be applied so as to reduce yield or deformation in the bearing when the operating load is applied. This is important in news presses where the presence of a cylinder jump (over margin spaces) would be reflected in the printing. In the case of magazine or offset presses the absence of yield or deformation in the bearing is also important in order to maintain impression and register.

Self-Aligning Press Bearings

Can Be Made Extremely Rigid For Radial and Axial Yield Without Affecting Self-Aligning Feature

By C. N. Benson*

The following is a brief explanation of the fundamental principles in design of the SKF self-aligning printing press bearing and why it has proved, under actual performance on high-speed news presses to be the ideal bearing to meet the exacting demands and severe operating conditions found on printing press cylinders. This type of bearing is used quite extensively on railroads, rolling mills, rock crushers, and other heavy-duty equipment, so that it may be rightfully called a heavy-duty bearing.

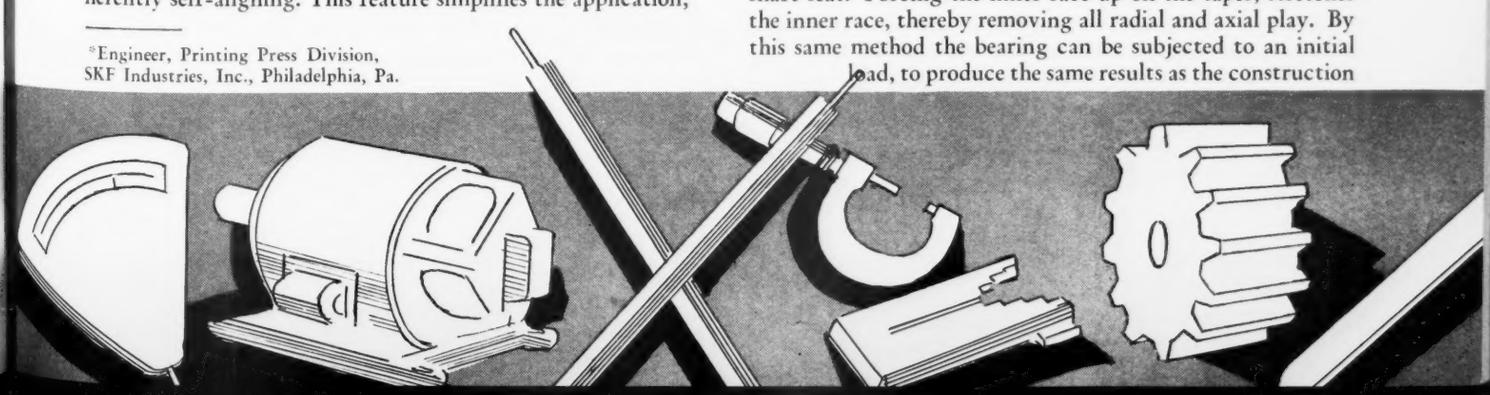
It will be seen, by reference to the illustrations that the bearing consists of an inner and outer race, two rows of barrel-shaped rollers, and a separate retainer for each row. The spherical surface in the outer race makes the bearing inherently self-aligning. This feature simplifies the application, and since rotation and self-alignment take place within the outer race the bearing surfaces will be lubricated and protected by lubricant in the bearing housing. No matter how much the races are mis-aligned they canot compress one end of the roller more than the other.

Another distinguishing feature in the bearing is the method of guiding the rollers. Referring to Fig. 2 it will be seen that the lateral component, which results in the angular contact, holds the end of the roller against the inner race guiderail, which prevents the roller from skewing. Since the surface of the end of the roller and the side of the guiderail are generated from the apex of the cone, the contact area between these members, it will be seen, is quite large and, being well lubricated, friction at this point is reduced to a minimum. This method of guiding also insures a normal contact of the roller with the inner race and retainer stresses are reduced to a minimum. The retainers merely serve to keep the rolling elements properly spaced. Since the self-aligning and guiding of the rollers reduce friction to a minimum, high operating speeds are permissible without excessive operating temperatures. Another important feature is the angular contact so that the bearing can carry heavy thrust loads in either direction.

In the application of this bearing to printing press cylinders Figs. 1 and 3 show two methods as to how the bearing may be applied. Each method provides for a take-up so that all radial and axial looseness or yield can be removed and also to compensate for manufacturing tolerances on the component parts. In Fig. 1 the outer race is made in two parts. This construction does not affect or limit the outstanding characteristics of the bearing as explained above. The inner race is mounted on the shaft with a press fit to prevent slipping and piening down of the shaft seat. The outer race is mounted in an eccentric or cylindrical sleeve, which in turn is supported in the frame. The housing is provided with two end covers, one of which is threaded into the housing and serves as a take-up device. Clamping the two parts of the outer race between the end covers removes all radial and axial looseness and an initial load can be applied so as to reduce yield or deformation in the bearing when the operating load is applied. This is, of course, important in the case of news presses where the presence of a cylinder jump, due to the gutters or margin spaces, is reflected in the printing. The absence of yield or deformation in the bearing is also important in the case of magazine and offset presses in order to maintain the desired degree of impression and the accurate matching of design. This type of mounting is to be preferred and recommended where the frame sides are split so that the bearings and housings can be assembled on the cylinder before mounting in the frame. The method of take-up provides for micrometer adjustment since the outside diameter of the adjustable end cover can be provided with notches or serrations engaging with a locking device so that the initial load on the bearing can be readily changed to suit operating conditions.

In Fig. 3 the bearing has a one-piece outer race, but the inner race is provided with a taper bore mounted on a tapered shaft seat. Forcing the inner race up on the taper, stretches the inner race, thereby removing all radial and axial play. By this same method the bearing can be subjected to an initial load, to produce the same results as the construction

*Engineer, Printing Press Division, SKF Industries, Inc., Philadelphia, Pa.



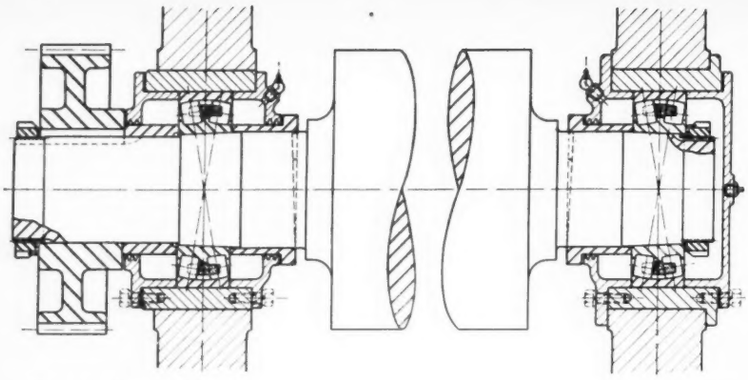


Fig. 3.—This bearing has a one-piece outer race; the inner race is provided with a taper bore mounted on a tapered shaft seat. Forcing the inner race up on the taper stretches the inner race, thereby removing all radial and axial play. By this same method the bearing can be subjected to an initial load, thereby producing the same results as in the construction shown in Fig. 1. The only advantage in this construction is the ease in assembly and disassembly in cases where the frame sides are solid and the cylinders must be assembled into place before the bearing can be applied.

shown in Fig. 1. The only advantage in this construction is the ease in assembly and disassembly in cases where the frame sides are solid and the cylinder must be assembled into place before the bearing can be applied. The method of removing internal looseness and applying an initial load is not as conveniently carried out as the arrangement shown in Fig. 1 and the construction should, therefore, be confined to magazine and offset presses where the magnitude of initial load can be made great enough so as to preclude the need of making any further adjustments after the press has been put into operation.

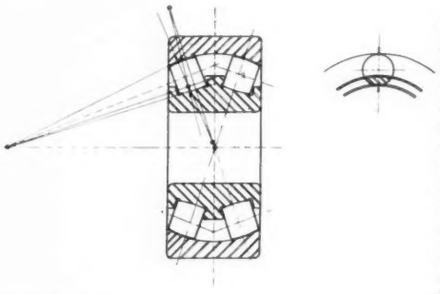


Fig. 2.—A feature of the SKF bearing for use in printing presses is the method of guiding the bearing rollers. The lateral component, which results in the angular contact, holds the end of the roller against the inner race guide rail to prevent the roller from skewing. As shown in this diagram, the retainers serve to keep the rolling elements properly spaced. The self-aligning feature and means for guiding the rollers reduce friction to a minimum. This permits high operating speeds without excessive operating temperatures.

With either design the bearing can be made extremely rigid with regard to radial and axial yield without affecting or limiting the self-aligning feature. Since alignment takes place between the stationary and rotating elements, the bearing can very readily compensate for any out-of-line condition regardless of magnitude of load. The bearing cannot bind if the cylinders are adjusted on one side only, which is frequently the case when the full web of paper is not utilized.

The low coefficient of friction in the bearing permits operating at high speed without an excessive temperature rise, and the self-aligning feature, which is dependable, insures reliability and lower maintenance. The bearing housings can very readily be made to provide for a generous supply of lubricant which will last for a comparatively long time.

With this type of bearing the length along the shaft is comparatively small. This means that it is possible to reduce the overhang of gears and the thickness of side frames. This not only permits a reduction in the overall width of press but a reduction in manufacturing costs as well.

THANKS, MR. FREDERICKSON

I would like to express my opinion of *Printing* EQUIPMENT *Engineer*. It is an instrument which should be in the hands of all progressive executives.

CHARLES FREDERICKSON, *Superintendent*,
Westchester County Publishers,
Yonkers, New York.

Mr. Porter Discusses Five-Year Program

Stressing press obsolescence as a dangerous menace to pressroom profits, H. A. Porter, vice president of the Harris-Seybold-Potter Co., Cleveland, discusses the five-year plan of press modernization undertaken by his company in a booklet which has just been published. This is a reprint of an address made by Mr. Porter before the Detroit Club of Printing House Craftsmen on April 17.

Mr. Porter said that investigation and analysis before undertaking the modernization program brought to light many facts, some of which were astonishing. He said:

> It is possible to prove that whether you are buying new and more efficient machinery or not you are paying for it just the same.
>
> Investigation brought to light many facts, some astonishing. Almost without exception printers are equipment conscious today—interested in any and everything which increases production and profit.
>
> We found a most amazing interest in all the related problems pertaining to obsolescence. We discovered a general realization that the small press had been the saving factor in many businesses during the last four years.
>
> However, we were forced to acknowledge that the small automatic letterpress, materially more than the offset and gravure processes combined, led the way to the obsolescence of two-revolution flatbeds in larger sizes.
>
> We found, also, that the market for the small offset press was grossly exaggerated, important though it is. We build small offset presses, but right here a policy stubbornly adhered to over the years had a definite bearing on our procedure. The presses demanded must not be office appliances, not makeshifts, but presses comparable in production and quality of work to the larger machines, a press that could safely be depreciated over a period of ten years. In plain words—they had to be built for the printer and lithographer who must use them comparably in the pressroom with larger units.
>
> We discovered, furthermore, that although every printer has suffered in lost volume during the depression, some, by creative effort and modern equipment, have sold profitably and continuously.

Speaking of NRA, he said that production limited by hours demands more modern presses to balance high wages, shorter hours and forces selling at a profit. "The National Industrial Recovery Act is no sheltering umbrella for obsolete equipment," said Mr. Porter.

The speaker describes in detail the company's five-year program in which all of its press equipment was redesigned, not for manufacturing advantage only, but primarily for the profitable operation of machines in the plants of its customers. Pressmen were given consideration through incorporation of means for safety and ease of operation.

Copies of the booklet may be obtained by addressing the Harris-Seybold-Potter Company, Cleveland, Ohio.

Bingham Passes On

Frederick Bingham, treasurer and director of Bingham Bros. Co., New York, Philadelphia, Baltimore and Rochester, died suddenly on May 3. He was a grandson of Samuel Bingham, pioneer roller-maker. He is credited with having perfected the formula for a non-meltable composition roller. He was treasurer of the Bingham Association and was also secretary-treasurer of the NRA Code Authority of the Printers' Roller Industry.

Offset Prevented By Paasche Process

Accomplished Through Use of Electric Eye, Compressed Air, Atomizing Gun and Anti-Offset Solution

By WENDELL WALKER*

J. A. Paasche, President of the Paasche Airbrush Co., Has Approached the Problem of Offset in Letterpress Printing From a New Angle. Mr. Walker Describes the Device in This Article.

FROM the very beginning of printing, it seems to me that printers have had three great worries. One was getting the right printed impression; the second, protecting that impression against ink offset or smudging, and the third, getting enough business.

When I was down at the Century of Progress looking at the Gutenberg exhibit, the thought struck me that, when Herr Gutenberg had solved the matter of printing, he was immediately confronted with the sister problem of preventing offset, a problem he solved, if you will recall, by hanging the sheets up with clips. As practical printers, you are familiar with the methods printers have used to combat ink offset and smudging— the doctoring of inks and the use of dryers, heat, slip-sheeting, etc. Then came the wax bar with its advantages. All have been steps toward the accomplishment of preventing ink offset and smudging.

The Paasche "No Offset" Process would not have been possible five years ago. It owes its being to new inventions in the application of air to industry by J. A. Paasche, a pioneer in air equipment developments, as well as the development of the photo-electric cell, to new discoveries in chemistry which made possible the "No-Offset" Solution whose particles hold apart the static-attracted printed sheets.

This new "No Offset" Process is the latest invention of Jens A. Paasche, an engineer of acknowledged ability, and is his solution of the ink offset and smudging problems which have bedeviled printers since the beginning of printing.

Possibly the most thorough study of the causes of ink offset was made by Carnegie Tech. It was found that 75% of printers' offset trouble was due to static or magnetizing of the sheets either before they go through the press or as the result of running on the press. In either case, these electrically-charged sheets are drawn together in the stack and ink offset or smudging results. They are attracted together as a needle is attracted to a magnet. The solution is to keep the sheets apart.

ANALYSIS

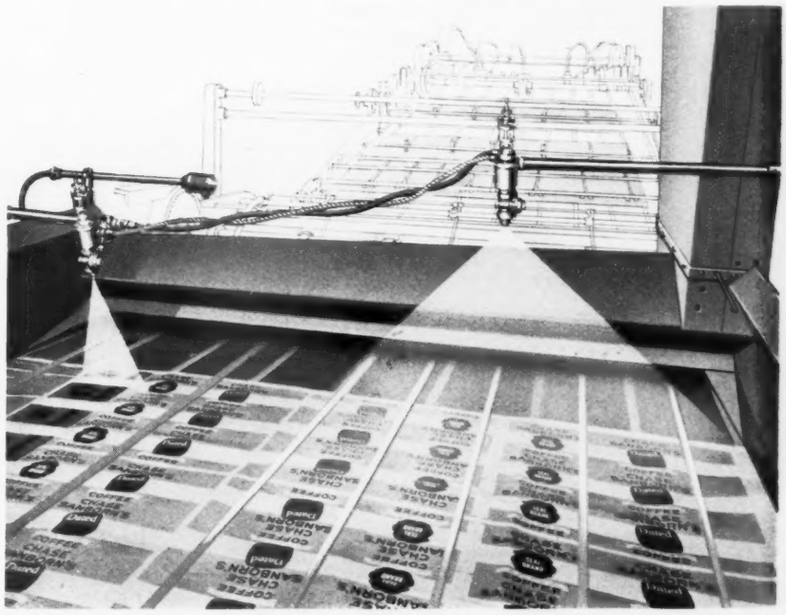
Type F2875-84 "No-Offset" Process Unit per 1,000 Impressions on Miehle 4-5 and 6/0 Two-Color Presses, Average Sheet Size 52 in. by 70 in. Normal Speed per Hour, 1,550 Impressions; Average Run, 35,000.

Cost of Press Time	$2.50
Cost of "No-Offset" Process Unit (Depreciation, Interest)	.15
Cost of Solution	.18
Cost of Adjusting Unit	.02
Cost Per 1,000 Impressions	$2.85

The solution, as it comes out of the gun, is broken into a fine mist that covers the sheet with millions of microscopic particles (like invisible powder) which are spread in a fan form, separating the sheets so that the wet ink cannot touch the next sheet as it enters the delivery pile. The mist is so fine that it can be detected only under a strong magnifying glass.

While this dry mist does not interfere with the drying of the ink or affect the color in any way, the separation keeps the sheets apart in the delivery pile of the press, thereby eliminat-

Fig. 1.—Close up view showing "No-Offset" guns adjusted for wide and narrow coverage. Provision is made for easy adjustment of the guns according to the size sheet being printed.



*Paasche Airbrush Company, Chicago, Ill. Abstract of address delivered before the Chicago Club of Printing House Craftsmen, Tuesday evening, April 17.

ing ink offset and smudging of the printed surface, as well as aiding in drying.

This solution is non-inflammable and may be used directly over a gas flame. It is clear and non-settling; it cannot clog or gum machinery or cuts; it is non-freezing, and it is non-congealing. As it is harmless to health, it can be used for food containers and wrappers. The research required to develop a solution with all of these characteristics represents months of exhaustive study and hundreds of tests before the desired results were obtained.

These transparent particles of the solution have no effect on a subsequent impression because they dissolve when touched with ink, lacquer, or varnish, without altering the appearance of the covering agent in any way.

This solution has a covering capacity of 60,000 to 200,000 sq. ft. per gallon, depending upon how light or heavy a solution is required for the ink and stock used. It is furnished in four grades.

The mechanical features of the unit are as follows:

First, the automatic gun which is air-operated, can be regulated so that the mist covers all widths from 1 in. to 42 in. For widths up to 84 in. two guns must be used. These guns open and close millions of times without any attention.

Second, the solution tank has a quick-removing safety cover and is equipped with a fluid gauge to facilitate keeping an account of solution cost on each job.

Third, the dual air-conditioning and automatic electric unit insure clean, dry air and uniform and non-fluctuating operation of air fluid and equipment. The photo-electric instrument unit is completely enclosed in a heavy steel case.

Fourth and fifth, the photo-electric cell tube and the light beam arm. As has been mentioned before, the photo-electric cell automatically controls the operation of the equipment with the running of the press, cutting the mist off and on for each size sheet, thereby eliminating waste of fluid and continual setting for different sizes of sheets. When printing from a continuous roll, the automatic solenoid valve is connected to an electric switch and the press wiring so that the

Continued on page 76

Fig. 2.—Showing the Paasche "No-Offset" Device in operation on a printing press. The equipment consists of an air compressor (not shown) and a solution tank which is indicated at 3. The tank is fitted with a fluid gauge to facilitate keeping account of solution used on each job.

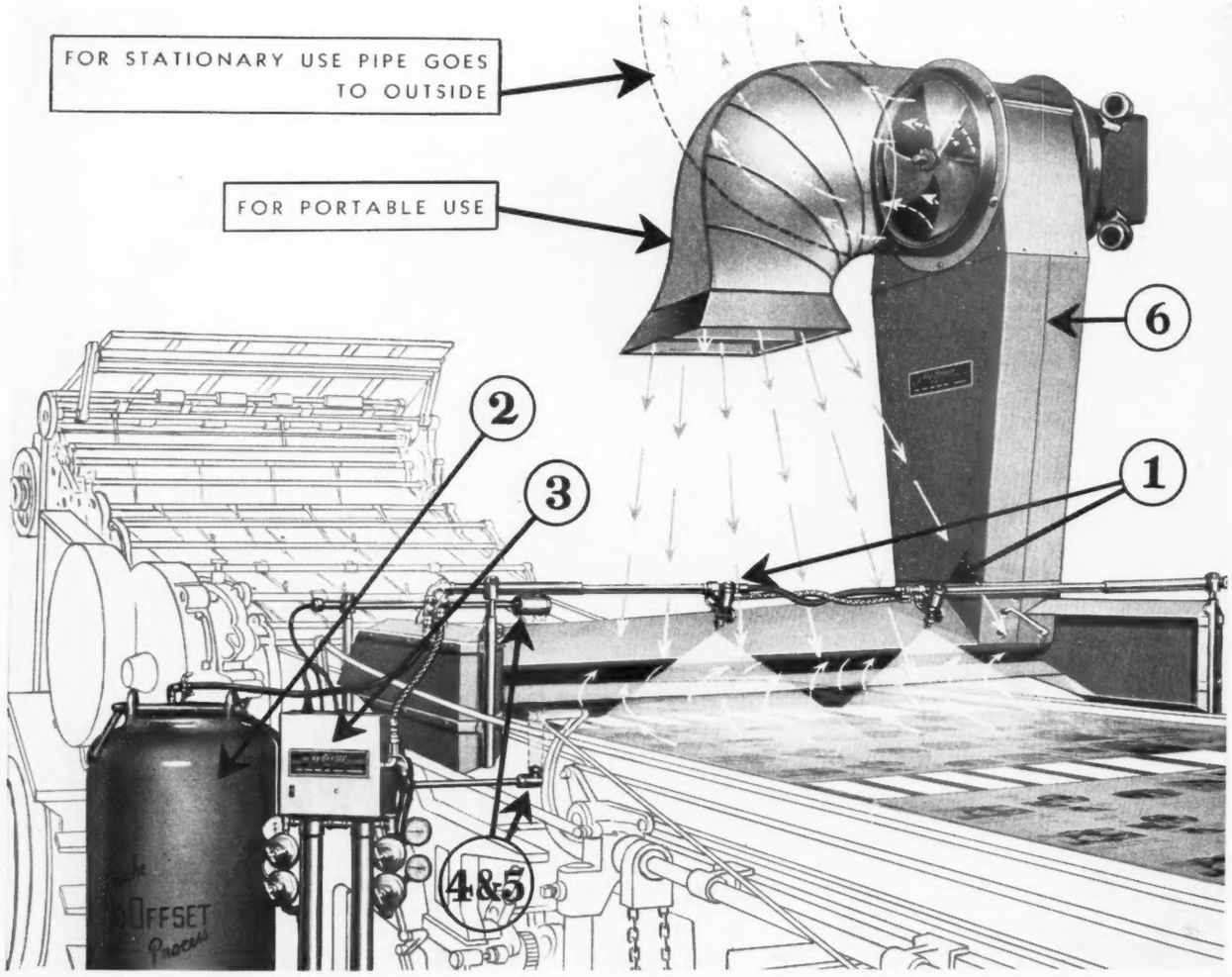
The guns 1 are used to eject an extremely fine mist of the offset-preventing fluid upon the freshly printed sheets as they pass to the delivery. The guns may be adjusted so that the mist covers widths from 1 in. to 42 in. For widths up to 84 in. more amplified equipment is provided.

At 3 is shown the dual air-conditioning and automatic electric unit which furnishes non-fluctuating operation of air fluid to the guns 1, and also furnishes cleansed dry air which is forced down from the inverted funnel upon the printed sheets as they settle in the delivery. The electric instrument unit 3 is wired with solenoid valve, contactor and condenser and is enclosed in a heavy steel case.

The photo-electric cell tube and light beam arm are indicated at 4 and 5. The photo-electric cell controls the operation of the guns 1 with the running of the press. As each sheet intercepts the light beam the photo-electric cell operates the guns. When the sheet has passed completely through the beam, the guns are closed automatically. When printing from a continuous roll the automatic solenoid valve is connected to an electric switch and suitable wiring in the press so that the guns will cut off and on with the starting and stopping of the press.

The ventilating equipment is shown at 6. It removes surplus mist, prevents clogging and gumming of machinery and cuts and removes foul air from the immediate proximity of the press.

When used as a Portable unit, a dust collector bag is furnished which is inserted inside the upright duct, 6, to collect the solids, and permit clean air to escape over the printed sheet, to aid in drying the ink, hold paper down on cords or tapes, and eliminate the cords above the sheet.



Factors Affecting Printing Inks

Writer Says Ink Maker Is Often Blamed When Makeready, Rollers, Paper or Temperature Are at Fault

By W. W. HITCHNER*

PRINTING inks may be composed of pigments, compounds, vehicles and dyes. The compounds are in two classes, driers and non-driers. The driers are subdivided into two classes—liquid or Japan and paste, such as mixtures of lead, manganese and cobalt soaps in vegetable oils. The non-driers are beeswax, soap, lard, petrolatum, etc.

The vehicles are oils and gums. The oils are divided into minerals, such as gasoline and kerosene; animal, such as fish, lard and oleic acid, and vegetable, such as linseed oil, soya bean, China wood and cotton seed.

The dyes are divided into two classes, water-soluble and oil-soluble. Oil-soluble dyes generally bleed in alcohol. They are used in toners for black inks.

We can safely say that printing inks are composed of a varnish into which a pigment is ground and held in suspension. Pigments furnish the color and the varnish the binder, which holds the color to the paper. The varnish is also the vehicle or carrier and the distributive quality of ink depends, principally, on the varnish used. The "tack" of the ink is due to the grade of varnish used. Heavy varnishes make a tacky ink for use on hard papers such as bonds, ledgers and the like.

LINSEED OIL BASE IS BEST

The most important ingredient of printing inks is linseed oil. It is made from the seed of the flax plant. Linseed oil base is considered the best because it dries with the greatest elasticity and is easily controlled. All the other bases or varnishes are used for some specific purpose, usually, as an adulterant or substitute to meet a certain price. The varnish made from the soya bean has splendid laying qualities and works well but has the very bad feature of being difficult to make dry.

Linseed oil varnishes are grouped as follows:

Thin	*Medium*	*Heavy*
00000	1	4
0000	2	5
000	3	6
00	–	7
0	–	8

The viscosity or tack is obtained by keeping the kettle over the heat at the same temperature when boiling. The length of time the varnish is allowed to boil governs its tack or viscosity.

The average halftone ink is ground in No. 1 varnish.

*Superintendent Pressroom Production, The Robt. O. Law Co., Chicago Ill.

An oil extracted from rosin is substituted for linseed oil in making the cheaper grades of ink. Rosin is a frictional substance that remains after turpentine is purified.

A large percentage of the trouble in the working of printing inks is due to the linseed oil being adulterated. Pigments are also adulterated to meet the price requirements. This explains why one ink maker charges one dollar and a half for a pound of colored ink, while another charges but one dollar and ten cents. There are pure materials only in the first and adulterated materials in the second.

The most important quality of an ink in securing good printing is strength of color. With the proper color strength a minimum amount of ink can be carried. This results in a cleaner print, no offset, and no sticking together of sheets. This strength quality is desirable in any ink, but in three and four-color printing it is absolutely necessary. With ink of the proper color strength, most of the troubles found with inks are eliminated.

ECONOMY IN USE OF GOOD INK

The proper application of ink to paper is of vital importance, not only from the standpoint of good printing, but also as a matter of sound economy. A good ink, strong in pigment strength and in every way suited to the paper and cuts, will prove to be the most economical to use. Let us analyze this fact. An ink of good quality, properly fitted to the paper, will lay smooth and will cover a greater number of sheets and there will be no offset; also, the printing will be clean-cut and effective. It is usually wrong to blame the ink maker when there is trouble. In these days of strong competition, it is a safe bet that all the ink makers are doing their best to deliver a satisfactory ink for the price you are willing to pay and we

Charles Frederickson, Mechanical Superintendent of the Mt. Vernon (N. Y.) Argus, Presides at the Monday Afternoon Session of the St. Louis A. N. P. A. Mechanical Conference.

usually get just what we pay for and no more. Most people are beginning to realize that real bargains are seldom found and with ink it is mighty dangerous to take chances for the sake of the few cents saved.

Very often the ink maker is blamed when the ink is O. K. and what is needed is either a more thorough make-ready, better rollers or paper, or more heat in the pressroom and sometimes all four.

It will be found to be true that those pressmen who are most thorough in makeready have the least fault to find with ink; and the pressman who is forever doctoring his inks is very likely slighting his makeready.

DIFFERENCE IN DRYING PROPERTIES

There is a great difference in the drying properties of different colors. It is difficult to explain these differences to those who are unfamiliar with them. Some colors, such as bronze blues, greens and some reds are natural driers and it is necessary to use a compound to retard the drying. Yellow inks

require very little driers. Purple and some reds need considerable drier.

There are several types of driers. A few years ago Japan drier was universally used but it is seldom used today. The paste driers in use today are far superior to Japan drier. Japan drier is made from gum and turpentine. As turpentine is volatile it gradually evaporates, leaving the gum behind, which becomes very sticky after the turpentine leaves it. If conditions are favorable and if much of this kind of drier has been used trouble with sheets sticking together will occur. This stickiness is often described by some pressmen as sweating. Today paste drier is used almost entirely in colored inks. With paste drier there is no evaporation and therefore no tack and it dries ink very much better than Japan drier without an objectionable after effect.

Most ink problems are due to either too much or too little drier. If the ink contains too little, it takes too long a time for the ink to dry and if it contains too much drier it causes a lot of trouble on the press. The ink maker's problem is to get just the proper amount of drier in an ink. This is not as easy as it may seem. No definite figures can be given as to the correct amount of drier to use. This must be studied and worked out for each particular case. Some pigments, as stated before, possess considerable drying properties, while others retard drying.

Louis G. Buisch, Production Manager, Hornell (New York) Tribune-Times, *is the Principal Speaker at the Monday Morning Session of the A. N. P. A. Mechanical Conference, St. Louis.*

THINGS AFFECTING DRYING OF INKS

In addition, the temperature and humidity of the pressroom have much to do with the proper drying of an ink; also the quality and kind of paper, speed of press, kind of ink, etc. If process colors, like yellow and red are used, they should dry slowly. All of these items must receive due consideration in determining the quality and kind of drier to be used.

In halftone printing the ink must dry rapidly but yet not dry so fast that it will dry on the press. Under the circumstances it will be found that it is more a matter of constant experiment and careful checking, than anything else.

On newspaper, or other very absorbent stocks, it is solely upon absorption that we rely for drying.

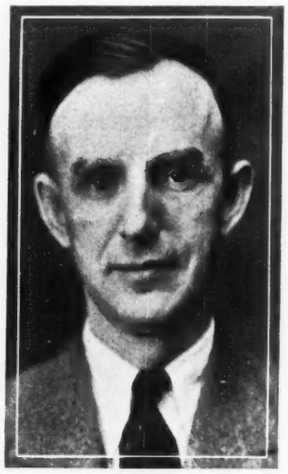
When it comes to super-sized or calendered stocks and coated papers, the drying is partly due to the absorption and partly to oxidation.

The ink on these papers should always be run as stiff as the stock will possibly allow to give a sharp and clean result.

RUBBING-OFF OF INK

Rubbing-off of an ink is due to the fact that the ink left on the paper after absorption and oxidation have taken place, has not sufficient binder and drier to make it a hard mass. The answer is the right body of ink for the paper and enough of the right kind of drier to make it dry. When an ink rubs off "dry" or powdery, there has been insufficient binder in the construction of the ink. When an ink rubs off and is "wet" there has not been enough drier.

When the humidity in the pressroom is high or when printing on damp or green stock it is good practice to add about one-quarter of an ounce of cobalt dryer to all but the process colors.

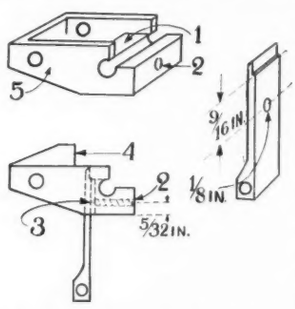


L. C. Michaels, Advertising Department, Cleveland Plain Dealer, *Will Speak at the Advertising Agency Session of the A. N. P. A. Mechanical Conference, Wednesday Morning, June 5, in St. Louis, Mo.*

Device To Rest Linotype Lift

JAMES M. DENT, chief composing room machinist at the Cleveland *News*, has devised an automatic device to rest a distributor box lift lever and lift so that the lift will not be operative except when there are matrices in the distributor box ready to be lifted into the distributor conveyor screws. This device is intended for Models 8, 14, 18 or 19 Linotypes carrying single distributor boxes.

In order to bring the lift to its resting position when there are no matrices in the distributor box, a 1/8 in. hole is drilled centrally in the lift body approximately 9/16 in. from the center of the hole to the top of lifting shoulder as is shown in the diagram. The regular lift spring is employed as usual to urge the lift against the separating block 5 except that a 4-48 screw 2 projects from the block at 3 about 1/32 in. When the lift has reached its top stroke the hole permits the lift to rest against the separating block where it remains inactive and is held in a suspended position by the screw 2. As soon as matrices are pushed into the box to engage the distributor box rails, one of which is indicated at 4, the lift is disengaged from the screw 2 and starts lifting matrices into the distributor conveyor screws in the usual manner.



Before applying the adjustable 4-48 screw 2, the inner vertical face of the separating block 1 is dressed off about 1/32 in. The 4-48 screw hole is drilled and tapped so that the center of the screw is 5/32 in. from the bottom surface of the separating block. The hole is tapped sufficiently so that the screw will bind slightly to preserve its adjustment. The screw is adjusted until its point at 3 projects about 1/32 in. from the separating block which will cause the lift to engage the thinnest matrix (which is approx. 0.0277 in. thick.) There is nothing about the device to prevent normal functioning of the font distinguisher.

Uniform Newspaper Unit Cost System

For Use in Composing Rooms, Writer Says, Can Best Be Sponsored By A. N. P. A. Mechanical Department

By CHARLES H. STOUT*

Mr. Stout Asserts Trend Toward Use of Cost Systems is Definitely Established in Every Section of the Country. Commercial Printers Took "Guess" Out of Costs Years Ago in Order to Operate Efficiently.

THERE is an ever-increasing indication that composing room executives have come to recognize the need for more adequate cost information. Experiences of the depression years show clearly that the lack of detailed cost records is a serious handicap. Hence, foremen are not only acknowledging the value of cost breakdowns, but in many cases they are devising and installing systems to reveal the desired information.

The trend toward the use of cost systems is definitely established. In every section of the country they are being installed. Desirable as this tendency is, one phase of it is quite regrettable—no general uniform system is being adopted.

Almost every plant taking part in this movement is installing its own individual system. While one system may be somewhat similar in character to another, it frequently differs just enough to make the comparison of results difficult. Without uniformity in the classification of cost elements and in the method of determining them, information obtained will be beneficial for intra-plant comparison only. Consequently, data derived from diverse systems may furnish no better bases for inter-plant comparisons than all of the present inequitable page cost figures.

UNIFORM SYSTEM ADAPTABLE IN ANY PLANT

It is quite true that the method of operation in one plant varies from that of another. Nevertheless there is sufficient similarity to permit the use of a uniform record system. There is no reason why an adequate system cannot be designed which would be adaptable to any plant.

Virtually all other manufacturing industries use uniform production cost systems. In fact, most of these industries know the cost of every major and minor operation in their production procedure. Unlike newspapers, they must know their costs in order to determine sales prices.

UNIFORM COST DATA AVAILABLE IN COMMERCIAL BRANCH OF INDUSTRY

In the commercial printing industry, uniform cost data are available. The United Typothetae of America, which embraces a large number of commercial printers, installs its cost system in the plants of its members. It also assembles periodic cost reports from its members and circulates tabulations of these for comparative information. For example, a member printer not only knows what it costs him to run a line-casting machine each hour, but also what this cost is in other plants of similar size. Furthermore, he has records of experience showing just how many hours should be required to compose a given quantity of type matter. Commercial printers found out years ago that they could no longer operate efficiently by guess. Now, printers of newspapers are coming to agree with them.

EMINENTLY QUALIFIED TO SPONSOR COST SYSTEM

In the daily newspaper field there is one central organization eminently qualified to sponsor the installation of uniform composing room cost systems and this one organization is the American Newspaper Publishers' Association. Through its mechanical department it could render valuable aid in this direction easily and effectively. If it should approve a uniform system for the optional use of its membership, it could also supervise the installation and operation of the system. Naturally, after the system had come into general use, it would be an easy matter for the mechanical department to assemble detailed cost data. Publication of comparative tables would then permit each newspaper to make comparisons of its composition costs with those of similar newspapers.

As a first step in this direction, the St. Louis mechanical conference could appoint a committee to look into the possibility of designing a uniform cost system. As its membership includes several who have made a special study of composing room cost-finding it should not be difficult to select a competent committee. In addition there are probably many non-members with similar knowledge and experience who would be glad to lend counsel. For that matter, a workable uniform system might be evolved by adopting the best features of systems now in use. But whatever the method of approach, the task itself certainly is not impossible.

NEED FOR DETERMINATION OF STANDARD UNITS OF MEASUREMENT

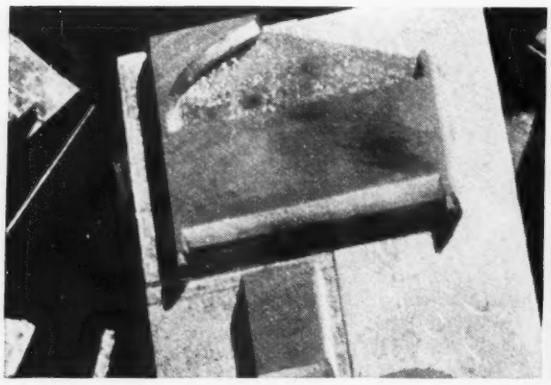
The main problem is to define standard units of measurement for all distinct operations. Original news machine composition is now measured by many plants in a variety of ways, but very few plants even attempt to measure other news composition elements such as copy cutting, head composition, assembling, correcting, making up, or any of the operations in display advertising composition. The extent of all these significant cost elements can be interpreted in uniformly applicable unit terms. After the terms have been defined there would remain the comparatively simple problem of devising a sound, practical method of recording measurement of units produced, time devoted, and some indication of the conditions under which production was obtained.

Not only is it within the A. N. P. A.'s province, but it is also its duty to give serious consideration to this subject. Sometimes, somewhere, and in some manner uniform composing room cost data will become available. But why wait? Now is the time and, logically, the A. N. P. A. should supply the means.

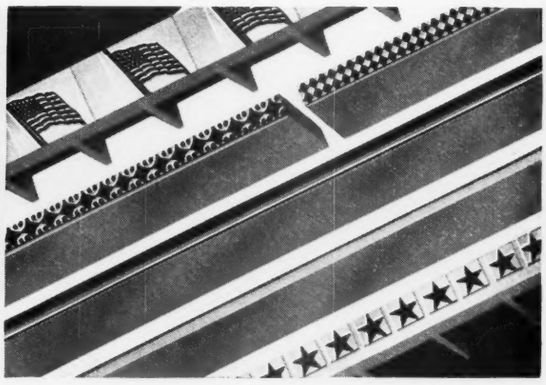
*Assistant to President, Matrix Contrast Corporation, New York, New York.

THE BIG NEWS

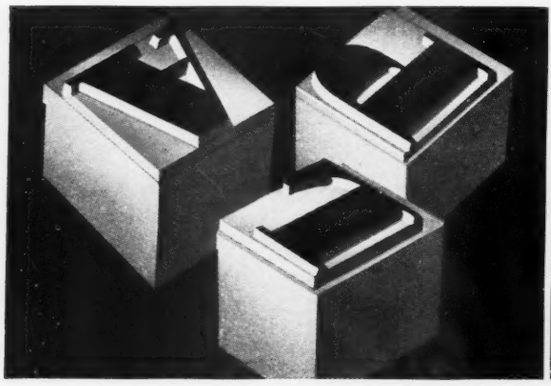
The All-Purpose Linotype is all that its name implies! It brings a whole bag of new tricks into your plant . . . is a new and better way of setting many kinds of composition more swiftly, more efficiently. For instance, the All-Purpose Linotype gives you:



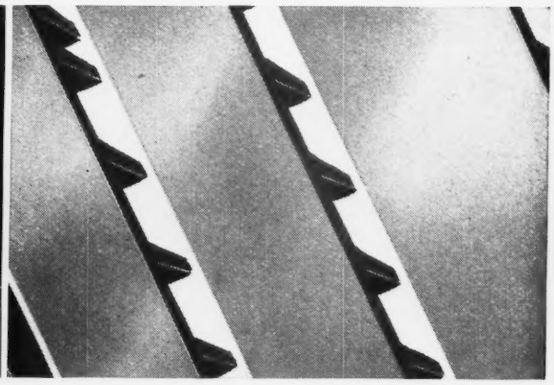
Slug Composition up to 144 Point . . . Yes! . . . the A-P-L sets every size from 5 point up to 144 point display . . . in unlimited quantity. It all comes out on easy-to-handle Linotype slugs. Controlled alignment.



Rules and Borders . . . The A-P-L has no idle time . . . in its spare moments it casts rules and borders up to 42 picas in length from a wide selection of designs that are available. Just another of its many features!



Single Type . . . A-P-L slugs may be cut into individual type for assembly where and as required. A special guide on the saw facilitates this operation. Make your own display type . . . as much as you need.



Spacing Material . . . Spacing material from 6 point to 6 picas in seven-inch lengths is all in the routine day's work for the A-P-L! It will cast what you need . . . when you need it! High or low . . . space or base.

● The A-P-L means more than just big type . . . it produces *new* type for every job, always with a fine printing surface. In your shop, the A-P-L will eliminate running out of sorts . . . give you the economy of all-slug composition . . . permit easier make-up. Studies show that by eliminating underpinning alone, regardless of all other economies, the A-P-L increases production sufficiently to pay for itself in a year!

TRADE LINOTYPE MARK

MERGENTHALER LINOTYPE COMPANY

OF THE YEAR • IN COMPOSING-ROOM EFFICIENCY!

APL

TRADE LINOTYPE MARK

Linotype Bodoni Family

29 RYERSON ST., BROOKLYN, N. Y.

W. J. Phillips, Plant Superintendent, The Oklahoma Publishing Co., The Oklahoma City, Okla., Will Preside at the Tuesday Morning Session of the St. Louis A. N. P. A. Mechanical Conference.

Mechanical Conference Exhibits

The following firms will have exhibits at the St. Louis A. N. P. A. Mechanical Conference. The list is complete as of May 25: Bingham Roller Co., Powers Engraving Co., Vandercook & Sons, Inc., Rapid Electrotype Co., Vogt Roller Co., Inc., U. S. Mfg. Co., H. B. Rouse & Co., Imperial Type Metal Co., New England Newspaper Supply Co., The Fred Goat Co., Inc., *Printing* EQUIPMENT *Engineer.*

Monotype's New Officers

The Lanston Monotype Machine Company announces that at a meeting of its Board of Directors, held on May 3rd, T. Frank Morgan was elected First Vice-President of the Company, John J. Meadth was made Vice-President and Wilfred Bancroft was elected to the position of General Manager.

Mr. Morgan has for a number of years been Vice-President of the Company, and his election to the First Vice-Presidency gives him additional executive authority.

John J. Meadth

Mr. Bancroft has been serving the Company for the past two years as its Treasurer and in assuming the position of General Manager follows in the footsteps of his father, J. Sellers Bancroft, who so ably assisted in the promotion of the Monotype during the early years of the Company.

Cline System of Making Pasters

Graphs Show That Increased Production Through Use of Reels Over Spindled Rolls Is Material

By A. J. CLINE*

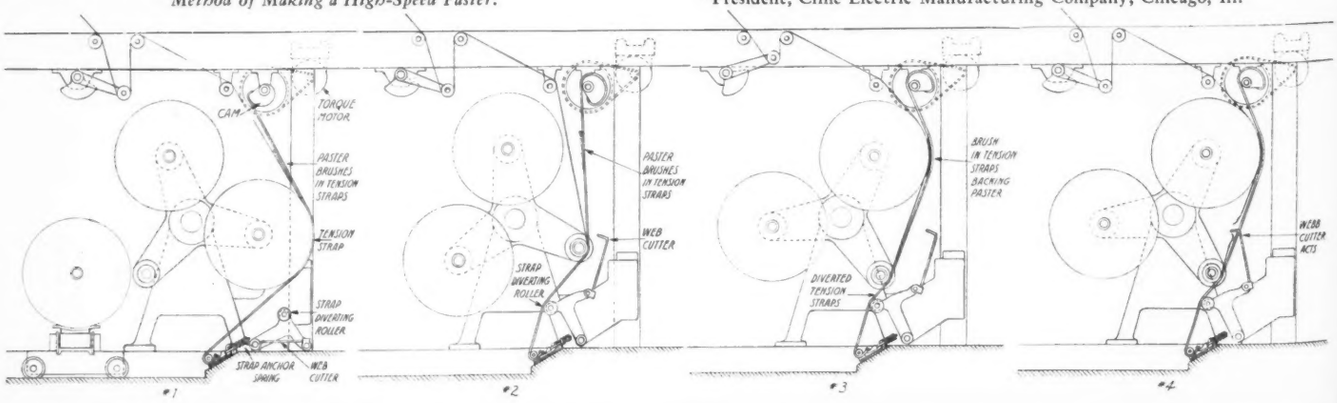
BEFORE describing the Cline paster, I think it is necessary to describe our tension inasmuch as it forms part of our present high-speed paster device. About the time we started experimenting with high-speed pasters, the writer began an investigation into just what effect the press-driven running belts had on the paper web and tension generally. The presses in the plant of Chicago *Tribune*, were then being operated at as high a speed as any presses. Larger rolls were being run than in most pressrooms and I venture to say that some of the rolls were wound and shaped as bad as any in the country, for you will remember at that time everyone was busy, even the paper mills.

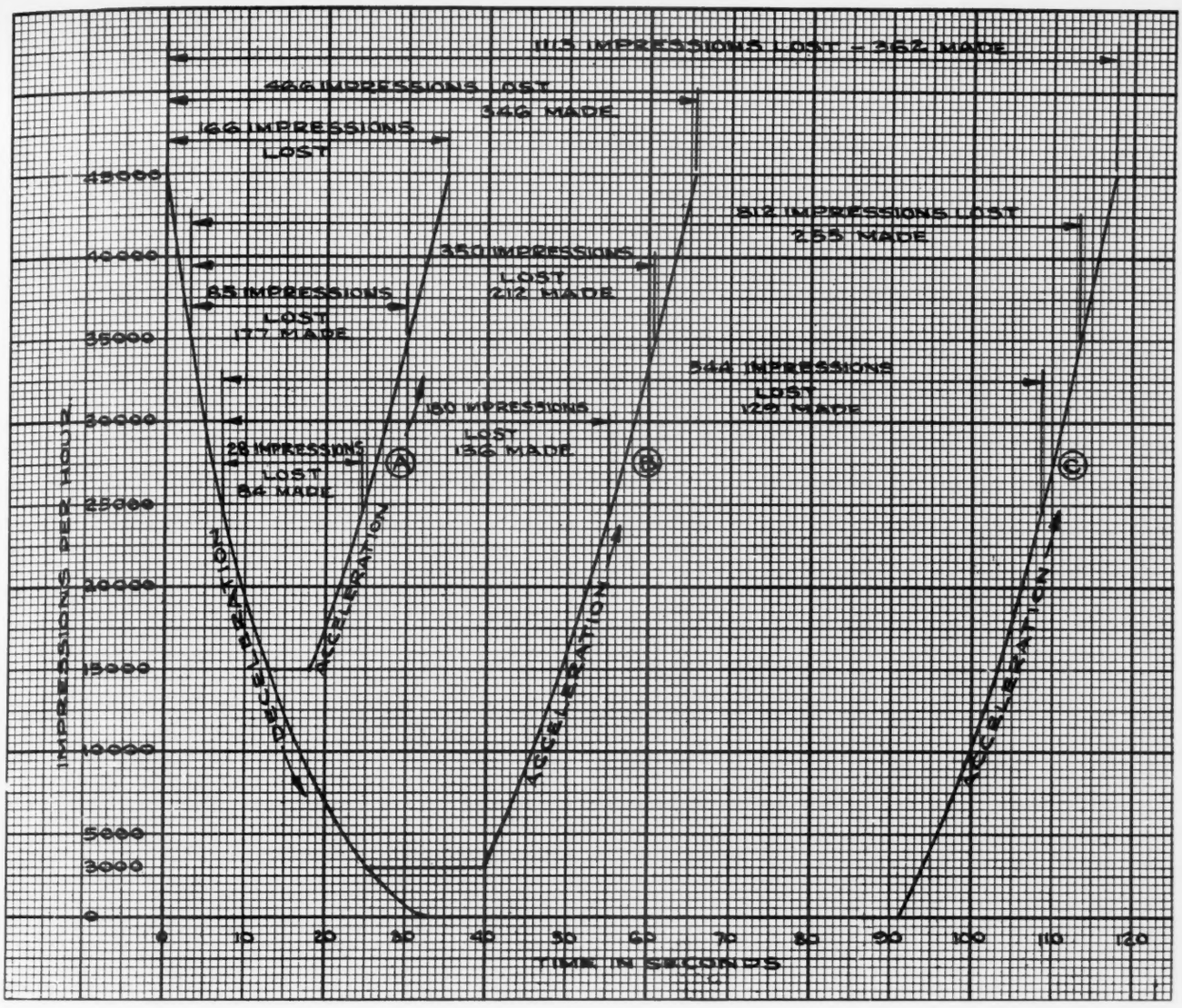
The press-driven running belts were geared to have a surface speed approximately 3% less than the paper web running through the press. Being geared to the press this relation was always maintained. A change of tension could be obtained only by rotating the reel to cause the roll to move further towards the belts, thereby obtaining a greater arc of contact with the belts. This obviously caused more friction, *i. e.*, more tension. Tradition had long held that the press-driven belts were impelling the roll regardless of the fact that the only purpose of the belts was to retard the paper, *i. e.*, to cause tension, and inasmuch as the belts were running slower we could see no reason for using running belts at all.

We replaced the driven belts by aprons or straps attached to the floor with springs, the upper end of the straps being

Progressive Diagrammatic End Views Showing Normal Tension and the Method of Making a High-Speed Paster.

*President, Cline Electric Manufacturing Company, Chicago, Ill.





COMPARATIVE LOSS OF PRODUCTION PER ROLL CHANGE OF THREE TYPES OF CLINE PAPER FEED EQUIPMENT AT SPEEDS OF 35,000 AND 45,000 I.P.H.

(A) CLINE REEL AND HIGH-SPEED PASTER, 15,000 I.P.H.

(B) CLINE REEL AND LOW-SPEED PASTER, 3,000 I.P.H.

(C) SPINDLED ROLLS. FULL STOP FOR ROLL CHANGE AND PASTER.

These curves represent the loss of production in impressions for three different ways for making pasters, and for various printing speeds of the press in papers per hour. For example, if the press is running at the rate of 36,000 papers per hour, 812 impressions would be lost per roll change, if the rolls are spindled and no reels used. If reels are used and the pasters are made at the rate of 3000 per hour, the loss would be 350 impressions. If reels are used with high-speed pasters made at 15,000 per hour, the loss would be only 85 impressions. This, of course, does not involve any loss of paper. Loss of production figures include only labor, overhead, depreciation, etc.

There will be a loss of five or six papers that will have the paster glue in them, regardless of the method of making pasters.

It has been proved that the fold and the ink distribution on the printed paper is not impaired by changing the speed from full speed to 15,000 papers per hour for making the high-speed pasters.

The above curves have been verified by a large number of timed observations.

The number of impressions marked "made" are those made during the time the paster is passing through the press at speed slower than maximum.

Due to labor and other expenses varying so much in different plants, the cost per impression lost is difficult to establish definitely. Figuring the total loss of impressions in one hour on an octuple press of 12 roll changes (being 2000 impressions) the difference between operating the press continuously at full speed and the loss due to making pasters at 15,000 is really negligible.

Another chart based on a press running at a maximum speed of 35,000 papers per hour shows the loss of impressions on an octuple press for pasters made one at a time, two at a time, and four at a time.

attached to cams mounted on a shaft. The shaft was geared to a motor with just sufficient current applied to it to cause it to keep the belts tight regardless of the size of the roll. The current can be regulated from a small station on the press. Therefore, the pressman may adjust the tension and it remains the same value as the roll wears down in size. The current consumption of the motor is about 80 watts. The current for the tension is further automatically adjusted by the press control slow-down and quick stop so that additional tension is added to prevent over-run of the rolls in proportion to the speed deceleration. Cams are used to compensate for the decrease of surface presented to the straps as the roll decreases in size.

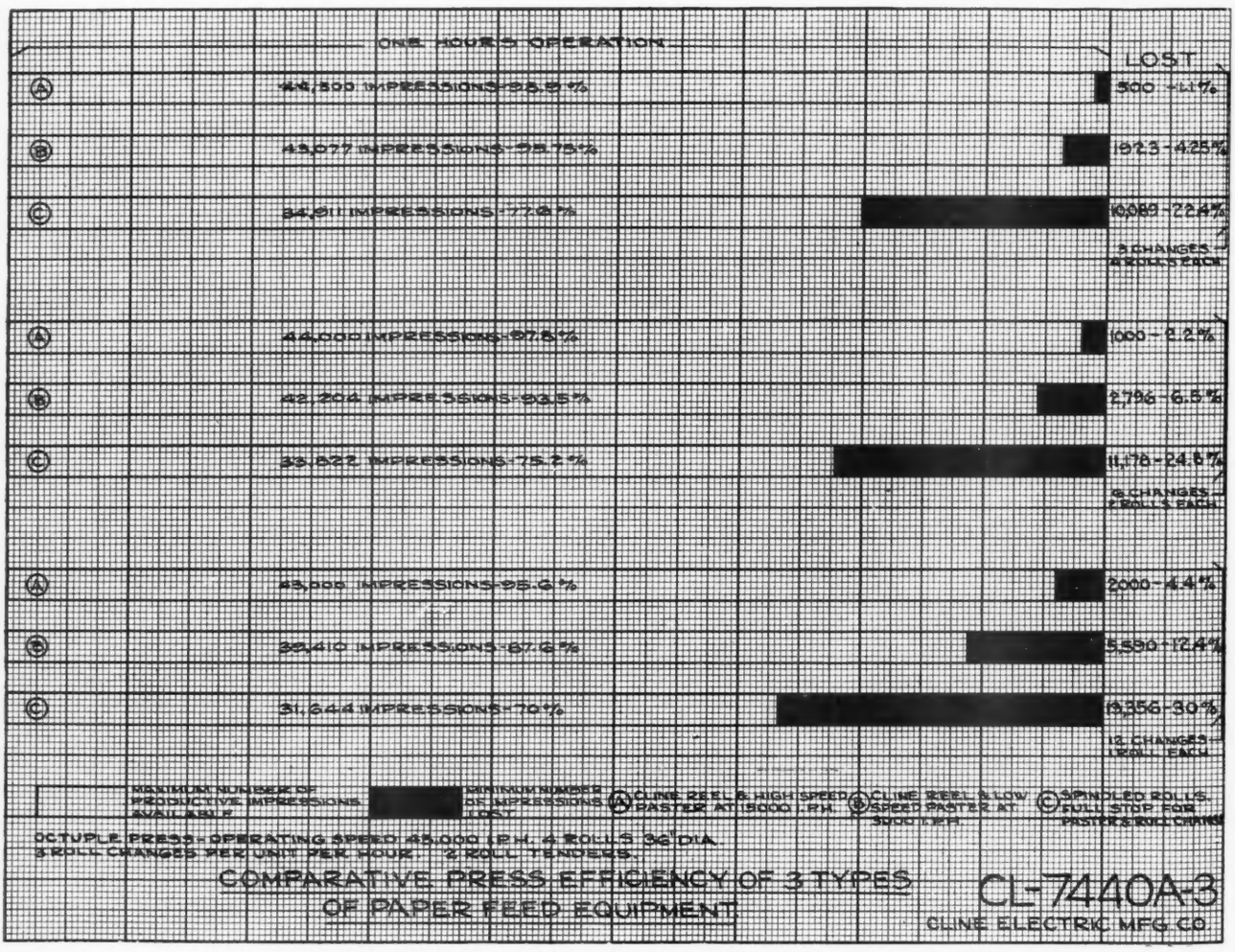
Now these are purely friction straps on the outside of the rolls where they have the greatest leverage and the pressure per square inch is so low that a person may move the strap lengthwise of the roll with one finger. The tension is applied where the web leaves the roll and regardless of the wind of the roll or the shape of it, or the condition of the paper near the core, the friction is the same. The torque motor acts like a spring. If the roll has been dropped on its side and there is a long flat on it the torque motor oscillates somewhat as the flat spot goes under the strap, indicating that the straps are following the contour of the roll and applying the tension on the web regardless of its shape. The springs to which the straps are anchored provide a variation of individual strap tension so that an egg-shaped roll is taken care of.

It has been said the straps cause paper dust which is objectionable. The answer is that the New York *News* and other picture papers have not found this to be the case. Pressure on a button drops the straps away from the roll, releasing the tension. This permits the pressmen to make-ready or feed the web through without rotating the reel.

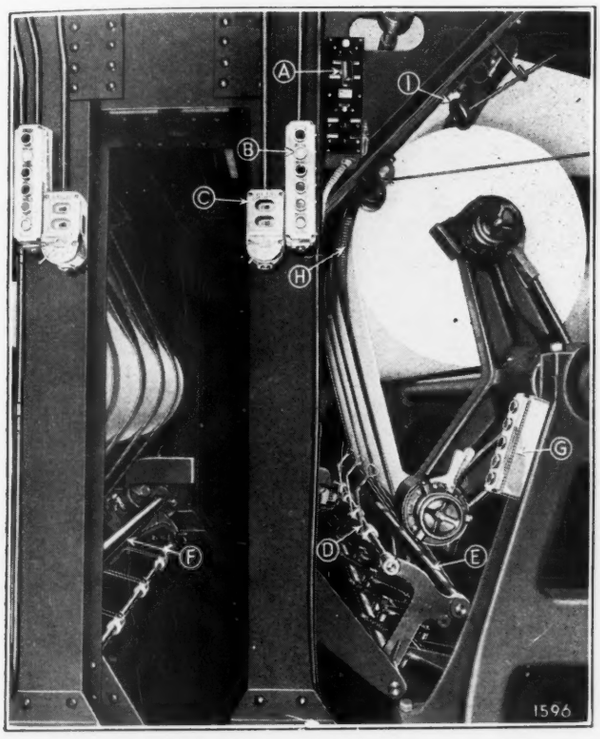
I have found it necessary to describe our tension, as I have learned that it is not understood by many newspaper men, and it is part of our flying paster device. A flying paster is made with the reel and strap tension the same as described for the running belts, namely, preparing the new roll ends with glue, rotating the reel so that the roll is pressed against the web, the straps acting as a backing. The new roll is rotated by friction with the expiring web the same as when running belts are used. Flying pasters are made by this method at a speed of 2,000 to 4,000, depending on the skill of the operator.

High-speed pasters are made by use of the Hammer propelling belt, the new roll periphery being automatically brought up to the speed of the expiring web and no timing device is necessary regardless of the diameter of the roll. The reel is then rotated and the paster made against the straps, the same as was done ten years ago with the running belts. Since then, however, the photo-electric cell has been developed to a degree that it is entirely reliable and we adopted it as a detector for timing the contact of the glue on the new roll with the expiring web. The timing is simplicity itself. The sensitive cell is used to detect the interference of a beam of light projected from a light source such as an automobile lamp through a bullseye lens towards the cell. Interference of the beam causes a variation of current in the cell. This energizes the relay that permits the circuit of any control to be actuated when the light beam interruption occurs.

When preparing the end of the new roll with glue, a tab is put on the end of the glue strip, similar to the one usually used to show when the paster reaches the folder. A light beam is


ONE HOUR'S OPERATION
LOST
Ⓐ 44,500 IMPRESSIONS-98.8%
500 - 1.1%
Ⓑ 43,077 IMPRESSIONS-95.75%
1923 - 4.25%
Ⓒ 34,911 IMPRESSIONS-77.6%
10,089 - 22.4%
3 CHANGES - 4 ROLLS EACH
Ⓐ 44,000 IMPRESSIONS-97.8%
1000 - 2.2%
Ⓑ 42,204 IMPRESSIONS-93.5%
2,796 - 6.5%
Ⓒ 33,522 IMPRESSIONS-75.2%
11,178 - 24.8%
6 CHANGES - 2 ROLLS EACH
Ⓐ 43,000 IMPRESSIONS-95.6%
2000 - 4.4%
Ⓑ 39,410 IMPRESSIONS-87.6%
5,590 - 12.4%
Ⓒ 31,644 IMPRESSIONS-70%
13,356 - 30%
12 CHANGES - 1 ROLL EACH
MAXIMUM NUMBER OF PRODUCTIVE IMPRESSIONS AVAILABLE
MINIMUM NUMBER OF IMPRESSIONS LOST
Ⓐ CLINE REEL & HIGH SPEED PASTER AT 5000 I.P.H.
Ⓑ CLINE REEL & LOW SPEED PASTER AT 3000 I.P.H.
Ⓒ SPINDLED ROLLS. FULL STOP FOR PASTER & ROLL CHANGE
OCTUPLE PRESS - OPERATING SPEED 45,000 I.P.H. 4 ROLLS 36" DIA.
3 ROLL CHANGES PER UNIT PER HOUR. 2 ROLL TENDERS.
COMPARATIVE PRESS EFFICIENCY OF 3 TYPES OF PAPER FEED EQUIPMENT
CL-7440A-3
CLINE ELECTRIC MFG. CO.

so projected along the end of the roll that the tab interrupts the light when the strip of glue is at the top of the roll. A relay from the light device is interlocked with the relay that rotates the reel to prevent the reel being rotated and hence the roll being moved towards the paper except when the glue is in a position where it must rotate three-fourths of the distance around the roll before it makes contact with the ex-



A—Paster control station.
B—Press speed control.
C—Tension reel room station provides for length or roll setting; provides for dropping straps away from roll; also signal light on pressroom level to indicate paster is made.
D—Web tail cutter in position ready to operate.
E—Diverting roller acting on straps under core to increase tension while paster is made.
F—Showing diverting roller and tail cutter folded up out of the way.
G—Rotation and margin control station.
H—Brushes.
I—Guide roller adjustment.
Pasters have been made with this device on a press in the plant of the Goss Printing Press Company at approximately 40,000 papers per hour, which was as high as the press was geared to run.

piring web. This insures time for the rotation of the reel to move the new roll now rotating at full speed to the web and against the backing.

We have used a brush supported by a frame to supplement the straps. This frame also supports the web severing knife. We have found a brush between the straps is unnecessary.

To operate the severing device the same tab that timed the paste rotation now on its way up through the press, interrupts another light beam whose relay causes the action of the cutoff knife.

MULTIPLE PASTERS

We have perfected a simple apparatus and a method of making pasters simultaneously on all the reels that may be delivering paper to any one press. This feature is selective so that the pressmen may elect to make one of any number of pasters at any time. In view of the number of newspapers that are equipped with rewinders to save core waste, and the recent tendency to use large diameter rolls, the value of this method of making multiple pasters can readily be appreciated.

There is another factor in connection with making multiple pasters that is well worth considering and that is the pasters would all be delivered into comparatively few papers and if these pasters are made at a speed of 15,000 the only waste for changing all the rolls would be in this small number of throw-outs. We have a device for marking these pasters by spraying them with colored dye that will permit them to be taken out and only the waste which would perhaps be accumulated from one paster will be necessary.

Bert Farrar To Talk at Illinois Meeting

THE regular semi-annual conference of the Illinois Composing room Executives' Association will be held at the LeClaire Hotel in Moline, Ill., on June 10. This year reciprocal arrangements have been made by the executive committees of the Iowa and Illinois association so that members may attend both meetings. The Iowa convention will be held in Clinton (30 miles from Moline) Monday and Tuesday, June 11 and 12.

Officers of the Illinois Association are.

Russell B. Miller, President, Bloomington *Pantagraph;* William Johnson, Vice President, Moline *Dispatch;* Earl Anderson, Secretary-Treasurer, Rockford Consolidated Newspapers; Leon V. Gonigram, Ottawa *Republican-Times* and George Bolton, Joliet *Herald-News,* Members of Executive Committee.

The program is as follows:

MORNING SESSION, JUNE 10, 9:30 O'CLOCK

RUSSELL B. MILLER, *Presiding*

Welcome to Moline—Dr. A. Henry Arp, Mayor of Moline.
Greetings—C. C. Lydick, Secretary Moline Chamber of Commerce.
Greetings—Harry A. Sward, Business Manager Moline Daily *Dispatch.*
Greetings from the Fraternity—Merritt W. Campbell, Editor Moline Daily *Dispatch.*

Earl E. Anderson, Foreman Composing Room, Rockford (Ill.) Consolidated Newspapers, is Secretary-Treasurer of the Illinois Newspaper Composing Room Executives' Association.

Greetings from the City Room—Fred A. Klann, City Editor Moline Daily *Dispatch.*
Introduction of All Present by Themselves.
Election of Officers
Selection of Next Convention City.
Adjournment for Dinner.

AFTERNOON SESSION, JUNE 10, 1:00 O'CLOCK

RUSSELL B. MILLER, *Presiding*

Address—Gilbert P. Farrar—Representative of Intertype Corporation.
Round Table Discussion on Any Problem Pertaining to Newspaper Composing Room Operation.

Offset Compared With Letterpress

Difference In Printing Processes Explained for Printers Considering Installation of Offset Presses

By B. D. STEVENS*

Is Your Executive Personnel Considering Offset Lithography? Whether or Not You Agree With Mr. Stevens' Views, the Discussion in This Article is Worthy of Your Most Careful Consideration.

LET me present, at the very beginning, my position with reference to the conflicting claims of letterpress and offset printers respecting the advantages offered by either process. This position is completely neutral. It makes no difference to me and, I may say, to my company, which type of machinery is most in demand. It is our business to furnish what the trade desires.

A recent letter from a large printer in the East says, "It's time for the printer to take stock. If he is to share in the advantages accruing to a resumption of business activity, he must learn where he stands with respect to the conditions to be met. One thing is cretain: He must be able to earn a profit. Without a profit, it is impossible to go on. In many cases, this may mean discarding equipment which has outlived its usefulness. It may mean the adoption of new and different methods."

This suggests the subject for this address: "Should the typographic printer install offset presses?" If the question as stated were to be answered in the way lawyers like to have witnesses answer their questions, that is, Yes or No, the correct answer would be a hard "No." If the question were, should the lithographic printer install typographic presses, the answer would still be a hard "No," but if the question is intended to ask whether a typographic printer should go into the business of offset printing, the answer may be "Yes," just as, if the question were, should he start a goose farm, the answer might be "Yes." By that I mean, if either a typographic printer is considering going into the offset business or an offset printer going into the typographic business, he is really considering going into an entirely new business.

*First Vice President, Miehle Printing Press & Manufacturing Company, Chicago, Ill. Presented at the meeting of The Cincinnati Club of Printing House Craftsmen on May 10, 1934.

HOW TO CONSIDER OFFSET

There is hardly enough in common between typographic printing and offset printing so that they could be called second cousins. About the only thing in common between the two is that they are both processes of depositing ink on paper, and about the only experience that either type of printer would have that would be in any way useful to him in connection with the other process, is his ability to judge the final results, that is, the effects or quality of the final printed job.

Therefore, the first things that a typographic printer should decide upon, in considering the installation of offset presses, are, first, does he wish to go into an entirely new line of business, and second, is there sufficient work, adapted to offset, in the field he wishes to cover to warrant the investment?

Frequently a typographic printer will feel that he should go into offset because he is losing business to offset printers, but here again let him consider well whether it is because of the particular process that is being used or whether it is salesmanship, unnecessarily high cost because of obsolete equipment, or some other factors which are the cause of his losing business. After he has determined that in order to protect his business or to enlarge his scope, he should go into offset, there are still many things to be considered in order that he may start right. He should at once get rid of any idea that by buying an offset press and perhaps hiring a skillful offset pressman, he is really in the offset business. In practically every case I know of, where a typographic printer has started in this way, he has had at least a year or two of grief and has sustained heavy loss until finally he has learned that he is really in a new business and has built up an organization from the estimating, selling, and operating standpoints which is entirely different from his organization for handling typographic printing.

True, after some years of experience, he may find that the two branches of his business can be merged in certain respects; possibly some of his salesmen can sell both typographic and offset printing; possibly the estimators will eventually learn to estimate both kinds of printing, but rarely, if ever, will the same operating force be found efficient in both. Often the same general superintendent may be used, but in the plant

THREE IMPORTANT ASPECTS

What I have said seems to divide the original subject, "Should the Typographic Printer Install Offset Presses?" into three questions:

1. Is offset printing encroaching upon the domain of letterpress to such an extent as seriously to endanger the future of the latter? I have stated facts and statistics which show that it is not, although if offset had not been discovered, no doubt the growth of typography would have been greater.

2. Can letterpress printing generally be replaced by offset? In other words: Will the average buyer of letterpress printing be willing, without question, to accept offset in its place? It cannot. The buyer of printing will continue to buy where he can get satisfactory quality for the least cost.

3. Can work be produced by offset at a lower cost than by letterpress? This depends on the nature of the job. If we eliminate newspapers and periodicals, the jobs as to cost would be divided, and herein lies the principal advantage of a printer having both typographic and offset departments; he can then figure the job for whichever department seems best adapted.

Therefore, it would appear that letterpress printers should go into offset only where they have a legitimate demand and where they have considered the move fully from every angle.

Announcing the New

Burgess Chrome Syndicate Mat

At the insistent urge of our many friends and customers we have developed and placed on the market a SYNDICATE MAT.

It moulds easily . . . has minimum shrink . . . dries flat in air . . . easy on patterns . . . makes fine printing plates . . . in all, it is just what is wanted in a syndicate or job mat.

A large Pacific Coast Commercial Shop says, "Best commercial mat we ever used."

A St. Louis Commercial Shop says, "This new mat works out swell, particularly on halftone plates and large plates with considerable solid area . . . for job work casting the mat is BY FAR the best we have ever had."

A large eastern newspaper syndicate contracted for their year's requirements. Quite a few others have already expressed themselves favorably.

Those interested, please send for samples.

Those attending the A. N. P. A. Mechanical Convention in St. Louis may see samples in our Suite, 1118 Statler Hotel.

The following will be there to welcome you . . . to discuss with you your problems and ideas:

D. T. STEPHENSON, Secretary, in charge of Sales

JOSEPH GOGGIN, Sales Engineer, Eastern District

LOUIS F. LAHL
Central District

STEPHEN CHIPCHASE
Southwestern District

HENRY MESSINA
Northwestern District

WALTER D. HITCH
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BURGESS CELLULOSE COMPANY

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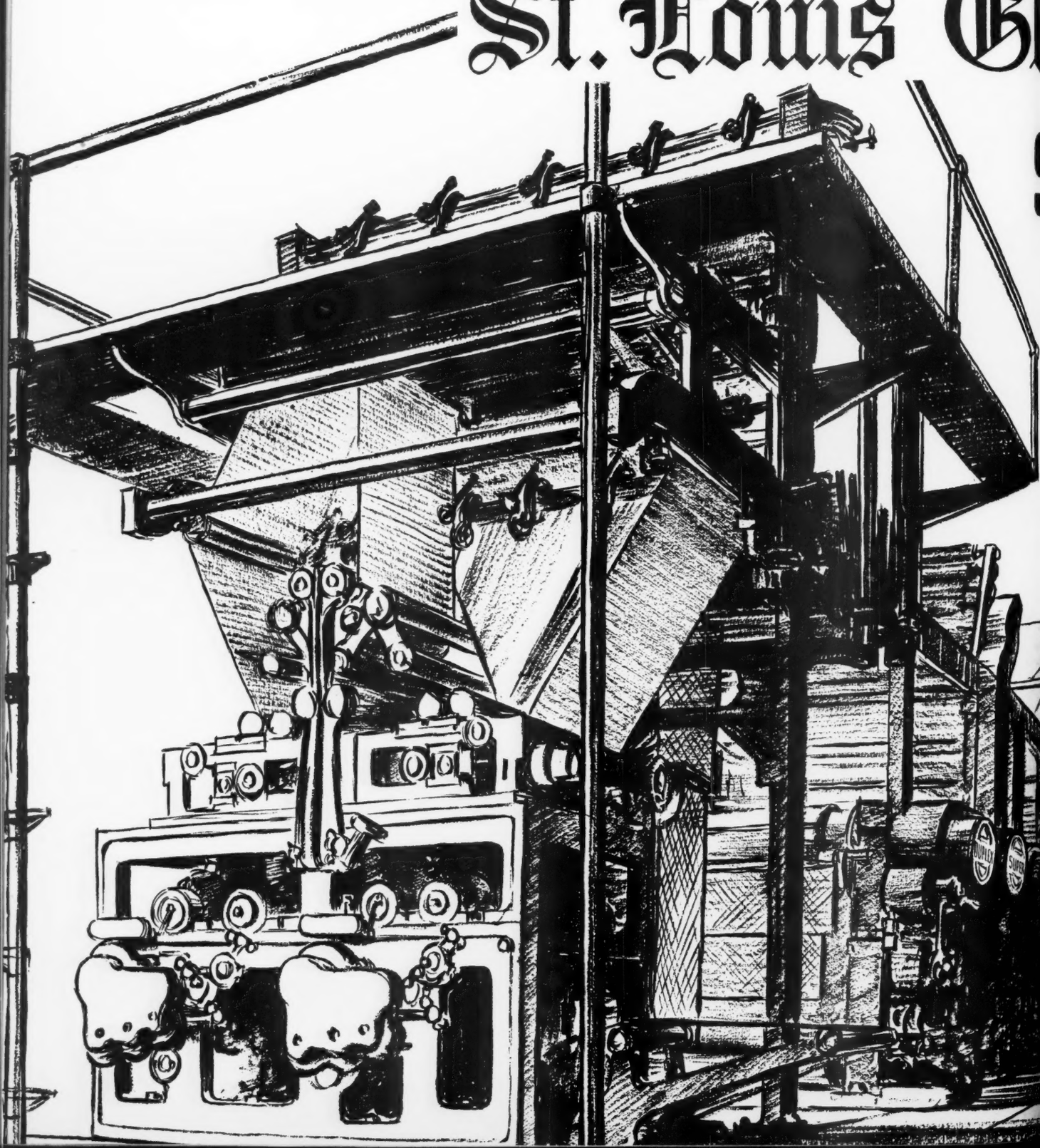

S WRITE OUR ADS —

DUPLEX

SPATCH

Globe-Democrat.

ST. LOUIS STAR-TIMES

THE METROPOLITAN DAILIES OF ST. LOUIS and their advertisers are leaders in MULTI-SECTION PRODUCTION up to even as many as eight sections. This in turn requires unusual and extreme flexibility in pressroom equipment and hitherto unknown facilities in airplane former and other details.

THESE FEATURES, with also new variations in drive mechanism and paper handling devices, etc., afford this Conference unusual opportunity to observe, under comparable conditions, all these features and, too, the extra flexibility and advanced development and sturdy construction of DUPLEX INTERCHANGEABLE SUPER DUTY UNITS.

THE TUBULAR is used exclusively for bill and poster work by the Siegrist Printing Company; DUPLEX FLAT-BEDS print the other St. Louis papers, the *Daily Record, The Argus, The Corondolet News.* We regret that the new Tubular under construction for the *Daily Record* is not to be installed in time for this Convention.

Cordial invitation to visit these plants is extended to Convention members by these publishers and joined in heartily by the Duplex Printing Press Company.

Our representative attending the Convention by invitation will be at the Hotel Statler and will be happy to be of any service possible to delegates in arranging to see equipment as desired.

THE DUPLEX PRINTING PRESS CO.

BATTLE CREEK, MICHIGAN

Times Building — 77 W. Washington Street — De Young Building

SKF—Specified . . Bought . . Preferred *for* Dependability . . Precision . . HIGH S

● HIGH SPEEDS at which great presses run *demand* hundreds of anti-friction bearings. Each bearing has a precision job to do . . . a BIG job . . . and if it's an SKF it's always a job well done!

Just as SKF pioneered in the paper industry in 1915, it has blazed new trails in the printing field . . . until today SKF has perfected a mounting that maintains *high speed dependability* . . . every day.

Tremendous speeds of today would not be possible without anti-friction bearings . . . and in SKF Spherical Roller Bearings there's the inherent self-aligning feature and load carrying ability that enables them to sustain hard shocks and jars during printing . . . to operate *entirely without play.* SKF Self-Aligning Roller Bearings assure good printing at the rate of 40,000 to 65,000 copies per hour without cylinder jump, vibration, web breakage, bearing failure, or spoiled product due to lubricant leakage. Lower starting torque . . . quicker pick-up . . . closer adjustments are also assured. And it's not unusual to find nearly 3,000 SKF's on one giant press . . . which enables the web to run at the rate of one-half mile a minute!

The SKF Spherical Roller Bearing is the only self-aligning roller bearing *in the world* that has the anti-friction qualities of a ball bearing . . . and when SKF's are on the job friction is reduced almost to a vanishing point. For SKF "puts the right bearing in the right place" . . . and makes any printing equipment THE LAST WORD! SKF INDUSTRIES, INC., Front St. and Erie Ave., Philadelphia, Pa.

SKF
Puts the Right Bearing in the Right Place

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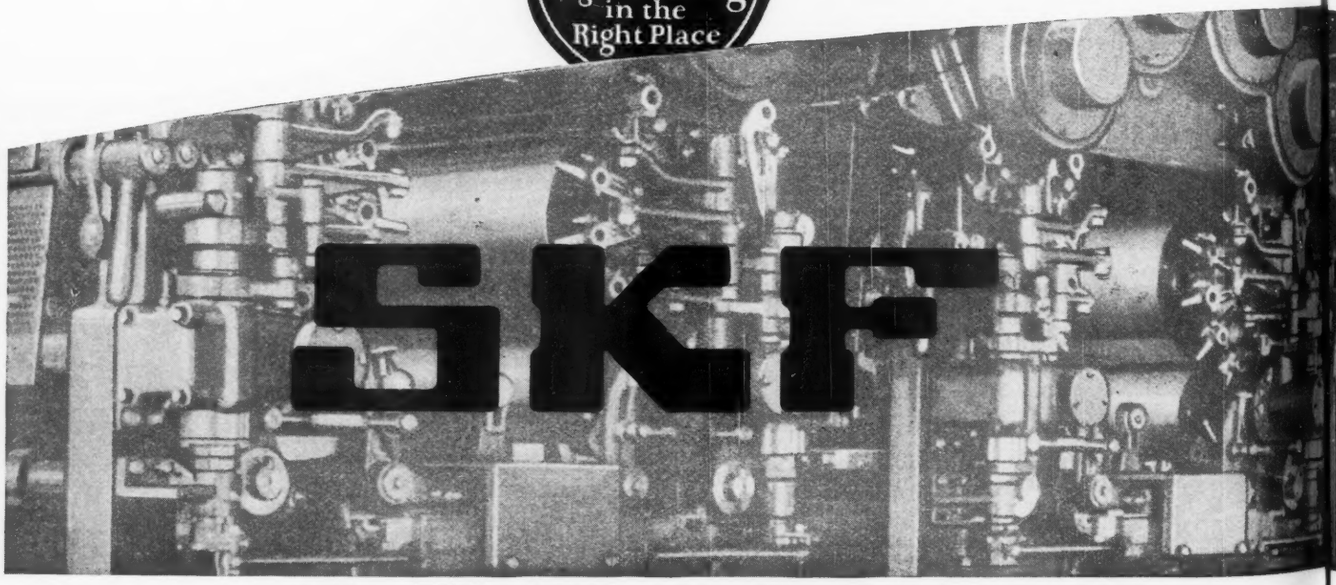

Ball Bearings

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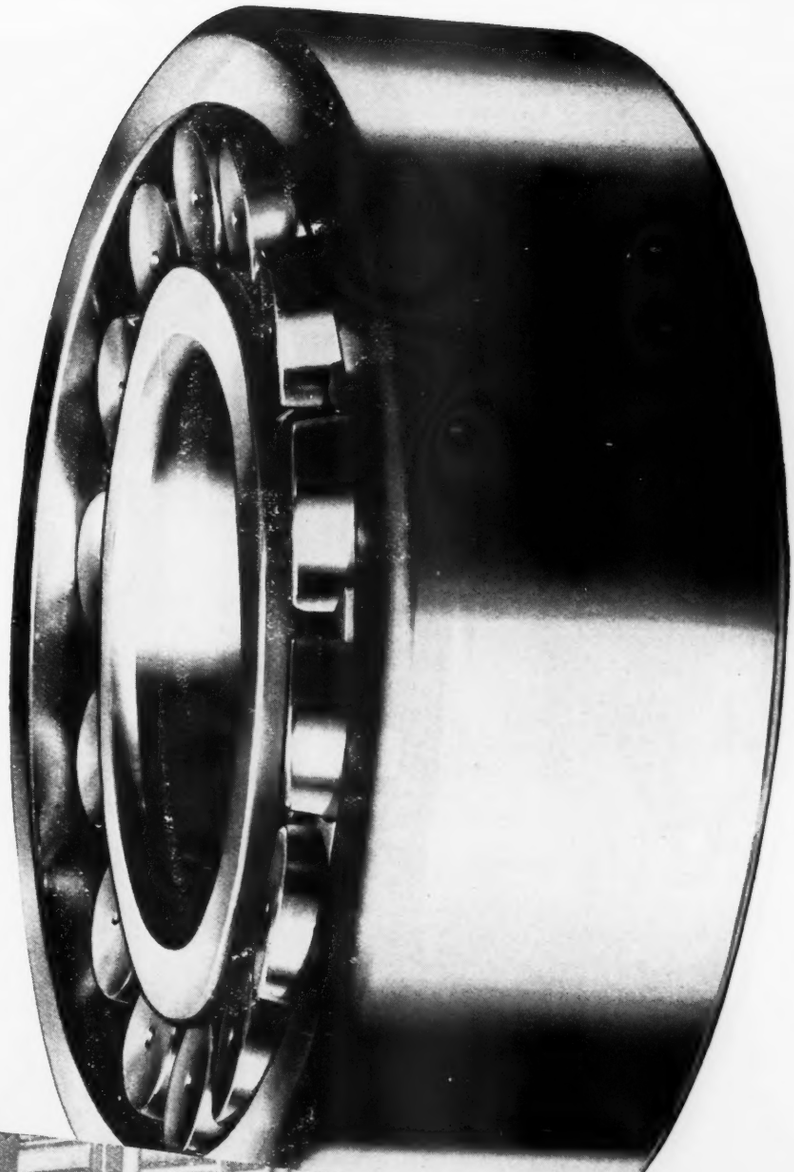
RANGE!

The printing industry has more than 30 types of SKF Bearings from which to choose. And SKF ruggedness, stamina, HIGH SPEED DEPENDABILITY can easily be installed in

Rotary Presses
Flat-Bed Presses
Offset Presses
Intaglio Presses
Gravure Presses
Jobbing Presses
Proof Presses
Typesetting Machines
Electrotyping Machines
Stereotyping Machines
Blackleading Machines
Etching Machines
Folding Box Machines
Gathering Machines
Gluing Machines
Conveyors
Routers
Folders
Stitchers
Strippers
Casters
Saws
Driving Motors
Control Units
Etc.



SKF

Roller Bearings

operations, the departments should be kept entirely separate. There may be a good typographic pressman and a good offset pressman in the same person, but I am much like the farmer when he saw his first giraffe, I just think "there ain't no sech animal."

The techniques of Typographic and Lithographic Printing, properly practiced, call for very special skill and a knack which is to be acquired only at the cost of years of training. In view of this fact, it would appear that it would be unwise for a printer, trained in either method, to take up the practice of the other *lightly*.

ADVANTAGES OF BOTH PROCESSES

I hope no one will think that I have anything against either process of printing. Beautiful results can be accomplished by both, and when the business is properly handled, satisfactory profits can be made in both. Many jobs can be run by either process with satisfactory results. Some jobs will show more satisfactory results when printed typographically. Others will be more satisfactory when printed offset. Certain effects can be produced by offset that cannot be produced by the typographic process, principally because a greater variety of papers may be used for offset printing than can be used for typographic printing. You could not print fine halftones by typographic methods on rough paper. You can by offset. You cannot get quite the sharpness, quite the strength of color or quite the hardness of detail by offset that you can get by typographic methods on supercoated stock. So far offset does not give quite as good results in three and four-color process printing as can be done by typographic methods, but considerable advance has recently been made in process printing by offset.

If a printer wishes to cover a rather wide field, be able to figure on practically any kind of job that is presented, and produce the best results on each job both as to quality and cost of producing it, he should then have two departments, one typographic and one offset. He can then run each job by whatever process seems best adapted. Offset presses can usually be operated on the same type of job at much higher speeds than typographic presses can be, but do not figure your jobs on the running speed of your presses.

PRODUCTION ON PRESS COMPARED

Frequently an offset press running at a much higher speed will not show as great an hourly average of production on the jobs as would a typographic press. This is because there are many more things which cause stoppages and lost time on an offset press after the job is once started, than there are on a typographic press. After the plates or forms are ready for a job, the job can usually be started on an offset press much quicker than it can on a typographic press. There is no such thing in connection with getting a job started on offset presses, as what we call "makeready" on a typographic press. On an offset press there is no such thing as shifting plates in order to get register over the entire sheet as there is on a typographic press. An offset plate must be made so that it registers over the entire surface of the sheet. If it does not very little can be done except to make a new plate, whereas on a typographic press the form may be changed by shifting individual plates so as to bring them into register.

COST OF OFFSET AND ELECTROS COMPARED

The original cost of offset plates after camera work has been properly done is considerably less than the cost of electrotypes. On the other hand, the length of run which may be reasonably expected from electrotypes is considerably longer than may be reasonably expected from an offset plate. Considerable progress has recently been made in length of runs from offset plates. A few years ago, 50,000 impressions were considered about the maximum that could be expected from an offset plate, whereas today runs of 100,000 are becoming common, and I understand that in some cases 500,000 from a single offset plate have been secured. If anything happens to one small portion of an offset plate, it usually means an entirely new plate, whereas if something happens to one electrotype in a typographic form, only that electrotype needs to be replaced.

ADAPTABILITY FOR CERTAIN WORK

Offset seems to be particularly adapted to letterheads, office forms, etc. Letterheads printed by offset compare favorably with those printed from engravings, and effects in multicolor letterheads can be produced by offset which cannot be duplicated by any other printing process.

Much interest has been shown of late in the small or what might be called the job offset press. Here again offset has its field but again not quite the same field as the letterpress. The runs in job shops, and the job departments of large concerns average less than 5,000. If there is type matter which has to be set up, the form can usually be locked in a chase and a short run printed on a letterpress before the offset plates could be made and put on the press. It is necessary to have a satisfactory proof of the type matter before an offset plate can be made. Plates for small offset presses can be made quicker and at less expense than electrotypes, and jobs which, on account of length of run or for any other reason, require electrotypes, can usually be finished on an offset press considerably quicker and at less cost than on a letterpress.

Many office forms, interdepartmental communications, sales bulletins, etc., can be produced by the printer equipped with a good job offset press for less cost, of better quality and at least as quickly as they are now produced on office appliance machines. This opens up a field for the job printer who can render this kind of service, and should bring much of this class of work back to the printer, where it rightfully belongs. In considering the installation of a job offset press for this service, however, the printer should be certain that he gets a machine which will do high-class work as well. He is then equipped to print high grade letterheads and color work, if he so desires.

STORING OFFSET PLATES

Offset plates can be stored at slight expense and used over and over again; therefore that process is well adapted to reprint jobs. Reprint jobs where the original typographic form has been destroyed and where a good copy is available, can be put on an offset press at much less expense than they can be reprinted by typographic methods.

The capital investment in an offset press is usually two or three times the capital investment in a typographic press of the same size. Therefore the production must average higher in order to cover depreciation and pay interest on the added capital investment.

AVAILABILITY OF READY-MADE PLATES IS LIMITED

Typographic plates, and even the made up forms, can be purchased in every printing center and in many comparatively small cities, so that a typographic printer may operate his business with practically no investment in plate-making or composing room equipment. Not so with offset. Offset plates at present are available only in a limited way and in two

THANK YOU, MR. MARTIN

I wish to say that I find considerable enjoyment as well as profitable information in the issues of *Printing* EQUIPMENT *Engineer* which come to my desk.

JOHN E. MARTIN,
Production Manager,
The *Sun*, New York, N. Y.

A. N. P. A. Members Are Invited to the St. Louis "Star-Times" New Plant

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Cline Unit-Type Press Drives

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St. Louis Globe-Democrat. EXTRA FINAL

VOL. 59—NO. 347—PART ONE (Entered as Second-Class Matter at Post Office, St. Louis, Mo., Under Act of Congress, March 3, 1879.) ST. LOUIS, TUESDAY MORNING, MAY 1, 1934—3 SECTIONS—26 PAGES. ST. LOUIS and SUBURBS PRICE 2 CENTS

JAPAN WARNED BY U. S. ON OPEN DOOR IN CHINA

ST. LOUIS STAR-TIMES

LATE HOME EDITION

VOL. 48—NO. 175. ST. LOUIS, TUESDAY, MAY 1, 1934. 20 PAGES ST. LOUIS and SUBURBS PRICE TWO CENTS

NRA HANDICAPS BUSINESS, SAYS U. S. CHAMBER

National Survey Reveals Firms Feel Code Rules Give Workers Advantage Over Employers in Wage Bargaining.

A. F. L., HOWEVER, ASKS STILL SHORTER HOURS

Green's Warning of 'Forceful Methods if Necessary' to Spread Employment Interpreted as Strike Threat.

WASHINGTON, May 1.—(U. P.)—American business leaders meeting on labor's historic day of demonstration were presented today with a blunt demand by the American Federation of Labor for more jobs just as their own experts completed a survey showing marked gains in employment under the NRA.

The United States Chamber of Commerce, opening one of its most important annual meetings today, released figures showing employment increases of as much as 40 to 50 per cent in some cities. The figures showed 90 per cent of employees are working in industries under NRA codes.

Before the figures had been made public leaders were confronted with a vigorous statement by President William Green of the American Federation of Labor calling for the use of "forceful methods" if necessary to shorten hours and spread employment.

Green's statement was received with immediate interest by the business leaders as it carried a threat of widespread strikes by the A. F. of L.'s 3,500,000 members in support of their demand for jobs.

Handicaps Cited.

Making public the results of a national survey of the NRA, the chamber said most replies indicated there were special detriments traceable directly to the NRA. Among the specific detriments listed were:

1. Labor costs were increasing without a corresponding rise in prices.

2. Employes were being given an advantage over employers in labor problems.

3. Difficulties were experienced in paying minimum wages, particularly in the smaller enterprises.

4. Uncertainty prevailed over future plans of the NRA.

There was a more favorable side in the report, however. Most business men answering the chamber's questions said that the trade practice rules in the code had proven beneficial.

About 40 per cent said that the NRA had improved business materially in their cities.

About 15 per cent reported benefits in specialized fields, such as coal, lumber and automobile retailing.

The rest indicated that NRA benefits had been slight or had proven detrimental.

"Chiseling" Charges Heard.

There were some complaints of "chiseling" and friction between units in certain industries.

There was a division over whether higher prices caused by the NRA were resulting in sales resistance.

"All the responses received from such states as Kansas," the report of the survey read, "showed sales resistance in some instances with fears of a buyers' strike locally."

The chamber said no general conclusion on wages could be drawn from its survey. Some complaints were received, it added, that codes had failed to increase the wages of skilled labor.

The report added that employment had increased 40 and 50 per cent in a number of cities, and from 10 to 15 per cent in many others. About 20 per cent of the cities surveyed reported that the NRA had brought little or no re-employment.

Wage Trends Vary.

Wage levels, however, varied greatly. In one large western city there was a 7 per cent increase in weekly payrolls and a 2 per cent increase in weekly earnings over June, 1933. In some cities wages for unskilled labor increased more rapidly than wages for skilled workers. In other cities the opposite situation obtained.

About one-half of the responses to the questionnaire said that minimum wages in the NRA codes had become maximum wages.

Employers have "definitely refused to comply" with President Roosevelt's request for substantial curtailment of hours and increase of wages, Green said in his defiant statement to industry.

"Labor believes that notwithstanding this refusal, a concentrated drive should now be made to compel, through the use of forceful methods if necessary, an immediate reduction in the hours of labor," he said. "There is no other remedy available. There is none at hand."

Green's statement followed his apparently unsuccessful attempt to enlist Mr. Roosevelt's support for

Brokers' Net Profit of 891 Million Dollars as P

Slu

GIRL WOUNDED HERE BY 'JACK

Victim of Mysterious Stabber

RIOTS AND FIRE MARK MAY DAY ACTIVITIES OUT WORLD

ed at Augsburg, Ger. unist Killed in Clash n Austria—Many In. e—Soldier Bullets Ter. rs in Cuba.

United Press.

tional labor holiday, was celebrated of a restless world today with vio.

ontents were blamed for setting afire inger Hall" in Augsburg. ed fire as parade of 25,000 passes. Two

ed on a group of Italian watergirls part in the May Day celebration. One

tion of troops in Paris, disorder broke

May 1.—(U. P.)—The great "Singer Hall" Day celebration, caught fire in five places

re was the work of Communist incendiaries tributed thousands of pamphlets in Augsburg Day in their own way.

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FRANK PRIMAVESI, FORMER WARDEN OF JAIL HERE, DIES

Succumbs to Apoplexy in San Antonio — Also Served as Workhouse Superintendent.

Frank J. Primavesi, former warden of the city jail and former superintendent of the city workhouse, died early today of a stroke of apoplexy at San Antonio, Tex. He was about 69 years old.

News of his death was contained in a telegram to the Star-Times from Mrs. Helen Primavesi, the widow. Mrs. Primavesi said the body will be cremated there.

Because of ill health Mr. Primavesi departed from St. Louis shortly after he left the office of city jailer last April, following eight years of service in that capacity. Until recently he and Mrs. Primavesi had been in Hot Springs, Ark.

Appointed by Kreismann.

Mr. Primavesi served for five years as superintendent of the workhouse during the administrations of Mayor Kreismann and Mayor Kiel, leaving that office, as he did the office of city jailer, with an excellent record. In the interim between his two city positions he practiced optometry.

A student of criminology, Mr. Primavesi was an advocate of pronounced changes to eliminate organized lawlessness. He was a frequent contributor of articles on criminology in the columns of this newspaper.

He recommended replacing of juries by judges in all felony cases, instruction of boys in schools under direction of men teachers only, use of the whipping post in the place of jail terms for criminals and changes in the parole system to prevent release of any prisoner sentenced for a long term before he had served one-half of the sentence.

Foe of Capital Punishment.

An opponent of capital punishment, he was a vegetarian because he did not believe in taking life. In an interview he once said he hoped that some day a substitute for leather shoes would be found so that it would not be necessary to kill the animal that produced the hide for the leather.

He was a theosophist and in stating his beliefs concerning reincarnation once expressed the opinion that Christ as a perfected spirit occupies now the body of a Hindu in the Himalayas and that all human souls are in the process of evolution toward perfection.

THIRD ANHEUSER-BUSCH PRIZE HORSE DIES IN YEAR

The third of the famous Anheuser-Busch string of Clydesdale horses to die within less than a year succumbed to pneumonia yesterday in Chattanooga, Tenn. The horse, Teddy, 9 years old, was on a national advertising tour. Two others, Bachelor and Duncan, died late in the summer in Texas, the former from jaundice and the latter from sun stroke.

SMALL LOSSES RECORDED IN UNEVEN STOCK MARKET

NEW YORK, May 1.—(U. P.)—Stocks turned lower after early irregular price movements today. Weakness in A. T. & T. drop in silver futures and in wheat unsettled the market. Losses in most

Imperial

is in St. Louis

The two splendid St. Louis newspapers whose mastheads are shown above are Imperial Type Metal users—they know their type metal. ¶ With these two newspapers, as with hundreds of others throughout the United States, Imperial is the last word in type metal. ¶ They rely on Imperial to give cleaner pages, complete freedom from type metal worries, and to reduce metal costs. ¶ Imperial Type Metal with the Plus Plan is a national institution. More newspapers use Imperial than any other brand of type metal. ¶ They know that Imperial is the most completely dependable metal and metal service that money can buy. ¶ There is an Imperialized newspaper within easy reach of your plant, and there is a mechanical executive in that plant who will gladly tell you the advantages of sticking to Imperial. ¶ We invite you to see our exhibit at the Mechanical Conference.

Imperial METAL

THE IMPERIAL TYPE METAL CO.

Philadelphia · New York · Chicago · Los Angeles

default.

During the tempestuous 1929 there were 1,124,608,910 shares traded. This total decreased to 425,234,294 in 1932.

THE WEATHER

Forecast for St. Louis: Partly cloudy tonight and Wednesday; warmer tonight; continued mild Wednesday.

For Missouri: Partly cloudy tonight and Wednesday; possibly showers Wednesday in northwest portion; continued mild temperature, with slightly warmer in extreme east central portion tonight.

For Illinois: Partly cloudy tonight and Wednesday; continued mild temperature.

TEMPERATURE READINGS.

Midnight	56	2 a. m.	56
		3 a. m.	55
		4 a. m.	53
		5 a. m.	52
		6 a. m.	52
		7 a. m.	54
		8 a. m.	59
		9 a. m.	63
		10 a. m.	66

Patrolman's Gun Missing.

The police have asked Chicago authorities for the police record of DeMore, who admitted, officers said, that he had been arrested there. Meanwhile an intensive search is being made for Siko's revolver, which he dropped when he was shot and which has not been found.

A flattened lead bullet was found yesterday by a passerby in front of 822 North Second street. It is believed to be one of the slugs fired during a pistol battle between the killed and Leroy Fink, railroad detective, who sighted the bandit on Lucas avenue and pursued him to Second street and Lucas.

Siko was killed because he refrained from firing his own revolver while trying to arrest the bandit. When a citizen pointed out a fleeing man as the one who had just tried to hold up the street car, Siko chased the fugitive into the alley, caught him and pressed his revolver into the suspect's side. The man whirled, fired point blank into the officer's face, then poured three shots into Siko's prostrate body and fled.

SHOTS KILL BYSTANDERS

LATROBE, PA., May 1.—(U. P.)—With a bystander dead of bullet wounds, and several persons recovering from minor injuries, the Latrobe Electric Steel Co. strike reached a critical stage today. Sheriff William Humes said shots were fired from inside the plant by khaki-uniformed strikebreakers, whom Humes had refused to deputize.

Leather Workers Strike.

PEABODY, MASS., May 1.—(U. P.)—Demanding 25 per cent wage increases after winning their fight for a closed shop, 10,000 leather workers began a general strike today, closing some thirty factories in five communities and crippling the industry in Massachusetts.

'SCOOP' PARTIES AT M. U. TABOO—THEY'RE NAUGHTY

COLUMBIA, MO., May 1.—(U. P.)—Declaring the decorations at the annual "scoop" party of the University of Missouri journalism students were too risque and the entertainment too free from censorship, which caused secretary of State Cordell Hull to instruct Grew to make his friendly but uncompromising statement regarding treaty rights. Japan published Hirota's statement after publication of Grew's instructions, but it was not made clear which actually spoke first.

Hirota's statement apparently left Japan maintaining the original attitude of her foreign office spokesman's declaration that she would not countenance any action that did not accord with her own ideas of foreign relations with China. However, Hirota said also that Japan would not interfere with the "legitimate" activities of other countries in China.

As Japan has shown little tendency to depend on the nine power treaty that guarantees China's independence, the question appeared to remain unanswered as to what if any tribunal Japan could appeal to except its own judgment.

Hull Note "Satisfactory."

Hirota accepted Secretary of State Hull's note rejecting Japan's claims of overlordship in the Far East as "quite satisfactory." The foreign office earlier had indicated similar

deal jobs during the administration's first year. Fifty-nine professors are on NRA's staff, fifty-six on agriculture's. Among the big-name professors in the new deck Columbia has most, University of Chicago next.

PIGS BEING BOOTLEGGED TO AVOID PROCESSING TAX

CHICAGO, May 1.—(U. P.)—Internal revenue agents revealed today that hundreds of pigs, dressed on the farm, are being bootlegged directly to retailers to avoid the government processing tax. The bootleg pork is sold for 4 cents a pound, while tax-paid pigs must bring at least 6 cents.

ITEM IN METHODIST PAPER DRAWS FIRE OF WAR VETS

LINCOLN, NEB., May 1.—(U. P.)—An article in the Epworth Herald, national Methodist young people's organ, advising Methodists to sabotage war materials "to get rid of the present economic system of

tions.

Mobile guardsmen -- picked soldiers, nucleus of war-time shock regiments—in dispersing them, arrested six who were found to be carrying firearms.

Russia Pays Homage at Tomb of Lenin, Thousands in March

MOSCOW, May 1.—(U. P.)—Hundreds of thousands of soldiers and workers in mass formation surged through Red Square past

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SCIENCE + EXPERIENCE

• has replaced mystery and guesswork in ink making •

In the Morrill laboratories before a new ink is approved, in addition to many other tests, it must pass every test to which it is subjected when on the press. It requires weeks and oftentimes months to complete this work. Every batch of ink made in a Morrill Plant is carefully tested by the laboratory and must be up to standard before it is passed. This close supervision over our product is what makes

Morrill's News Black and Colors
The World's Standard

Morrill's ink + good craftsmanship = good printing

GEORGE H. MORRILL COMPANY
DIV. GENERAL PRINTING INK CORP.
100 Sixth Avenue New York, N. Y.
BRANCHES: Boston, New York, Philadelphia, Chicago, St. Louis, Minneapolis, Ft. Worth, Los Angeles, San Francisco, Seattle

or three of the largest printing centers, so that for the present at least, no one should figure on going into offset in a big way without installing his own plate-making equipment. Depending upon the class of work that he may wish to do, the expense for plate-making equipment may run anywhere from a thousand or two, to fifteen or twenty thousand dollars, and manifestly no one can afford to put twenty thousand dollars into plate-making equipment unless he operates five or six offset presses.

FUTURE OF OFFSET

Any attempt to forecast the future is extremely hazardous. I am not a prophet. Therefore I shall not make the attempt. Perhaps the best way to get an idea as to the probable course of events is to study history. It is often said that history repeats itself. In this connection I was much interested in a report of the Fifteenth Census of the United States on "Printing and Publishing and Allied Industries," copies of which may be obtained from the Superintendent of Documents, Washington, D. C. This report shows that the total value of products of the typographic printing and publishing industry, including newspapers and periodicals, for the year 1919 was about $1,539,000,000, and for the year 1929 about $2,761,000,000, an increase in the ten-year period of approximately 80 per cent.

It shows that the newspaper and periodical printers in 1919 produced in value of products about $925,000,000, and in 1929 about $1,739,000,000, or an increase for the ten years of approximately 88 per cent. It shows that the job and book printers produced in value of products in 1919 about $600,000,000 and in 1929 about $1,008,000,000, an increase of approximately 68 per cent.

The lithographic industry, including offset printing, according to this Census Report, in 1919 produced about $73,000,000 and in 1929 about $121,000,000, or an increase of approximately 66 per cent.

From this it is interesting to note that the total increase in typographic printing during the ten years is considerably more than the increase in lithographic printing, that is eighty per cent as against sixty-six per cent. If we take typographic job and book printing, which is probably most nearly comparable with lithographic printing, the increase during the ten years is almost exactly the same, that is, sixty-eight per cent for job and book printing and sixty-six per cent for lithographic printing. It might well have been expected that lithographic printing would show a greater increase during the ten years mentioned than typographic job and book printing, for the reason that it is the newer process, but such is not the case. In other words, during this ten-year period, neither process made any material gain over the other.

I have dwelt at some length on the differences between offset printing and typographic printing, and one might ask why, if there is such a difference between the two processes of printing, should not the manufacture of the presses be separated? My answer is that it requires no different process to make an offset press than it does to make a typographic press.

Let me say again that I believe the future of both letterpress and offset printing is assured. There is a legitimate field for each of them. Each offers opportunity to the printer who is competent, who is uncompromising in his effort to produce worthy work and who will not sell it for less than it is worth.

With reference to the last, let me call your attention to the fact that the fair cost of printing, as of any other commodity, is based upon its production by the most economical methods. No printer can expect to receive a price for his work based upon his operation of obsolete or even obsolescent equipment.

HOW MUCH ARE YOU PAYING MONTHLY FOR—

Water Bills
Removing Lime from Water Jackets
Loss of Production

The MONOAQUA COOLER eliminates this unnecessary monthly expense, as well as makes it possible to place machines where water is not available.

The MONOAQUA COOLER is driven by a round belt and direct from the typesetting machine motor, requiring only three quarts of distilled water which is circulated by a gear pump and cooled by means of two fan-cooled radiators. The machine is constructed of the very best of material, is self-lubricating and free from attention. It requires only one square foot of space and can easily be set aside while making repairs on the Linotype or Monotype.

Each Linotype or Monotype consumes over 30 gallons of water per hour and the Monoaqua Cooler will pay for itself in a few months on the saving of water alone.

The MONOAQUA COOLER has been found very satisfactory by the many newspapers and printing plants who have been using it for the past two years.

Prices, ready for installation:
$55.00, each. Quantities of five, or more, $50.00 each.

THE DIXON COMPANY 735 E. Ohio Street, Indianapolis, Indiana

IN the far-off jungles of Java, Sumatra and Borneo natives gather raw materials to meet the exacting specifications of Ideal rubber rollers.

Ideal rubber rollers are a step ahead in development and offer many long-needed advantages.

Rubber is only one of hundreds of ingredients used in our manufacturing processes. Extensive laboratory tests are made of all raw materials to insure absolute uniformity.

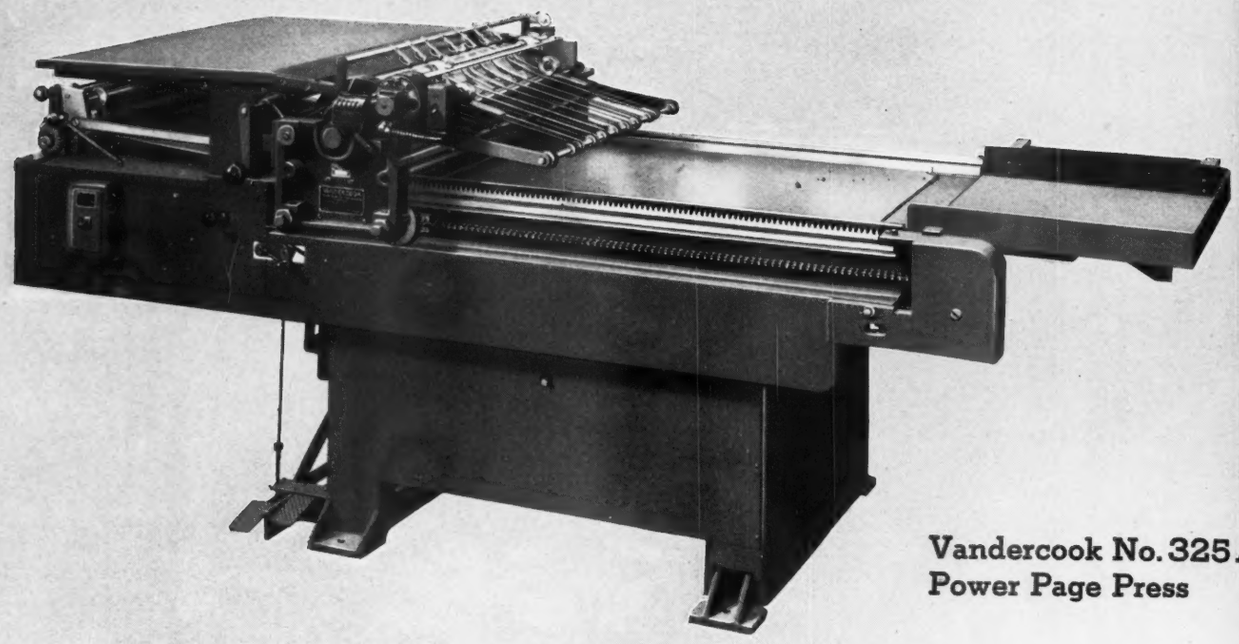
These advantages—first-class materials and superior workmanship—are at your disposal in Ideal rollers and obviate the necessity of trying to get along with inferior rollers which, in the end, cost you more.

For those who are particular, a long list of different Ideal materials is available to meet their requirements. We manufacture rollers suitable for every purpose.

These facts can be convincingly demonstrated in your own plant. May we send a competent service representative to study your individual requirements?

IDEAL ROLLER & MANUFACTURING CO.

CHICAGO ★ *Offices in Principal Cities* ★ NEW YORK



Vandercook No. 325 A
Power Page Press

1000 Page Proofs Per Hour
Means Better Service to Advertisers

Co-operation in furnishing any number of proofs, for department checking, or advance proofs for posting, means much to the advertiser. For newspapers equipped with the Vandercook No. 325 A Power Page Proof Press it is easy to give this service.

Page proofs in stereotype chases can be printed without impression of the chase. Proofs of large or small advertisements in galleys are obtained with equal facility.

First installed by the *Chicago Daily News,* the Vandercook No. 325 A Power Page Press, so quickly established its advantages that many leading newspapers throughout the country have ordered.

In New York City every major newspaper, with the exception of the *New York Daily News,* which uses three Vandercook No. 23 Electric Proof Presses for its tabloid size pages, are operating or have ordered one or more of the No. 325 A Proof Presses.

The Vandercook Power Page Press is the *modern* proof press for fast moving newspapers. It saves time where seconds are of vital importance.

Your request for details of performance and prices will not obligate you in any way.

HEARST NEWSPAPERS

NEW YORK AMERICAN
NEW YORK EVENING JOURNAL
ALBANY TIMES-UNION
SYRACUSE JOURNAL
SYRACUSE SUNDAY AMERICAN
ROCHESTER JOURNAL
ROCHESTER SUNDAY AMERICAN
BOSTON AMERICAN
BOSTON SUNDAY ADVERTISER
WASHINGTON, D.C. HERALD
WASHINGTON, D.C. TIMES
SAN ANTONIO LIGHT
PITTSBURGH SUN-TELEGRAPH
BALTIMORE NEWS
BALTIMORE SUNDAY AMERICAN
ATLANTA AMERICAN
ATLANTA SUNDAY AMERICAN
CHICAGO HERALD EXAMINER
CHICAGO AMERICAN
WISCONSIN NEWS—MILWAUKEE
LOS ANGELES EXAMINER
SAN FRANCISCO HERALD-EXPRESS
OAKLAND CAL. EXAMINER
SEATTLE POST-INTELLIGENCER
OMAHA BEE-NEWS

220 SOUTH STREET
NEW YORK

April 26,1934.

Vandercook & Sons,
216 E. 45th Street,
New York City.

Gentlemen:

You ask our experience with the two No.325A Vandercook Power Presses, lately installed in our Composing Room.

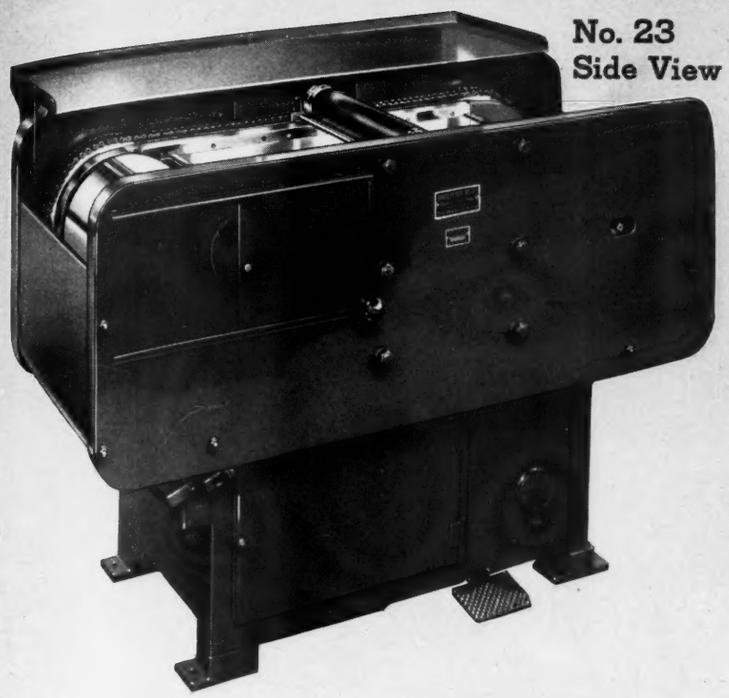
I am pleased to state that our results are very satisfactory. We are getting a high grade proof and great uniformity in distribution. Owing to the greater production we are getting over our old type Vandercooks, we are enabled to take on a great deal of job work that heretofore we have been obliged to send out. These machines will, in a very short time, pay for themselves. I congratulate you on an outstanding improvement over any other proofing methods.

You are aware that on the strength of our experience in South Street we have recommended this type of press to many of the other offices in the Hearst organization.

Wishing you the success you deserve.

Sincerely,

Geo. E. Pancoast



No. 23
Side View

No. 22
End View

40
GOOD PROOFS PER MINUTE

Vandercook No. 23 is essential to newspaper or publication printers for proving advertisements up to six columns wide.

It is an excellent working companion for Vandercook No. 325 A Power Page Press for larger newspapers.

Vandercook No. 22 is especially suited for news proofs up to three columns wide. It is also an effective machine for advertisements within its size.

These new, compact, high-speed presses are equipped with special Vandercook impression cylinders and rubber rollers, insuring *good* proofs from forms and galleys that vary as much as .015″ in height.

No. 22 or No. 23 will accelerate production in the composing room of the newspaper or large printing plant. Where speed is essential, and good proofs are demanded, these presses are necessities.

An outline of mechanical construction and prices will be sent at your request.

FOR THE ENGRAVING DEPARTMENT

Vandercook Proving Machines

Vandercook No. 219
Printing Surface, 19 x 24 inches.
Hand or Power Operated.

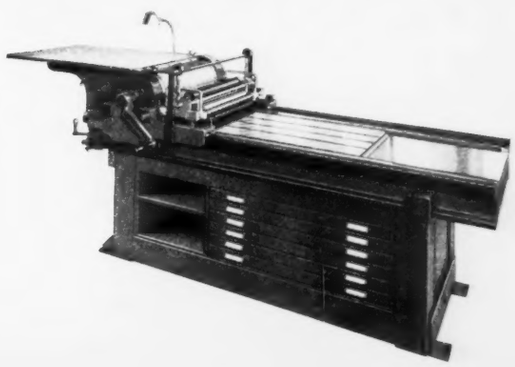
Vandercook No. 222
Printing Surface, 22 x 34 inches.
Hand or Power Operated.

Vandercook No. 226
Printing Surface, 26 x 38 inches.
Power Operated Only.

All Vandercook Proving Machines have readily changeable Inking Units to save washup.

•

Both hand and power operated presses have power ink distribution.



VANDERCOOK & SONS, INC.

Originators of the Modern Proof Press

908 North Kilpatrick Avenue. Chicago. Illinois

Type Design for Today's Newspapers

Keeps Pace With Introduction of Dry Mats, Rubber Rollers, Higher Press Speeds and Soupy Printing Ink

By HARRY L. GAGE*

NO LITTLE credit for the improved appearance of the present-day newspaper must go to the alert type designer.

Not so long ago the impetus given the desire for improvement in the physical appearance of the newspaper brought into use the dry mat stereotyping process with its maximum moulding pressure and positive control of the depth and area of the printing surface. The fine hair lines in type faces broke down under the severe pressure required in the use of the hard dry mat. In the pressroom the introduction of rubber rollers which were designed to permit operation of the presses at greatly increased speeds, further aggravated the problem of printing an easily readable newspaper.

Linotype engineers found out that certain newspaper faces were not performing well when used at high speeds on news presses equipped with rubber rollers. Rubber rollers make contact with stereotype plates in such a way that the letter characters slurred, smeared and filled up with ink. The unsatisfactory results were examined under a microscope.

It is not a difficult matter for the mechanical executive to imagine a surface of matted crisscross soda-fountain straws in order to picture the result of printing on such a surface with metal types however large. This is what happens, as the microscope sees it, on every bit of modern newsprint when it goes through the press.

Ground wood is just such a mass of slivery fibers. Put a bit of printed news under a moderate microscope and sometimes it's almost impossible to discern the whiskery shapes as letter forms at all.

So type designing for news requirements has become a highly specialized art. The elements of beauty which can be studiously embodied in book and commercial printing types have been forced to submit to the even-increasing necessities of newspaper stereotyping and printing on high-speed presses with rubber rollers.

*Mergenthaler Linotype Company, Brooklyn, New York.

Fig. 1.—The microscope reveals an enlargement of a typical newspaper face of yesterday (Roman No. 2).

From the days of the first broadside news sheets in Caslon (not so many generations ago) through the first years of slug-machine composition, the conventional types amply served the purpose of slow and simpler printing methods. With the development of higher and higher speeds began a contest between type designer and machinery builder which is paralleled only by the familiar rivalry of gun-builder and armor-plate maker.

When the Linotype organization first introduced a monotone news face, maximum legibility and printability were achieved for the printing conditions of yesteryear. Again a further burst of press speed, with more extensive use of rubber rollers, and new problems arose that carried the contest once more to the drawing boards in the matrix factory.

Properly to understand this problem of letter design for these exacting requirements each letter form must be looked at in its final appearance on a news page. Microscopic study was not very helpful. The problem became so fuzzy that the extreme difficulties to be met were accentuated.

Obviously, however, the blurred and fibrous images of letter forms indicated the first approaches to redesigning. In its days of first adoption Century Expanded was regarded as the most legible type for news purposes. Nobody of discerning taste ever called it beautiful. But it served to produce thousands of papers, year after year.

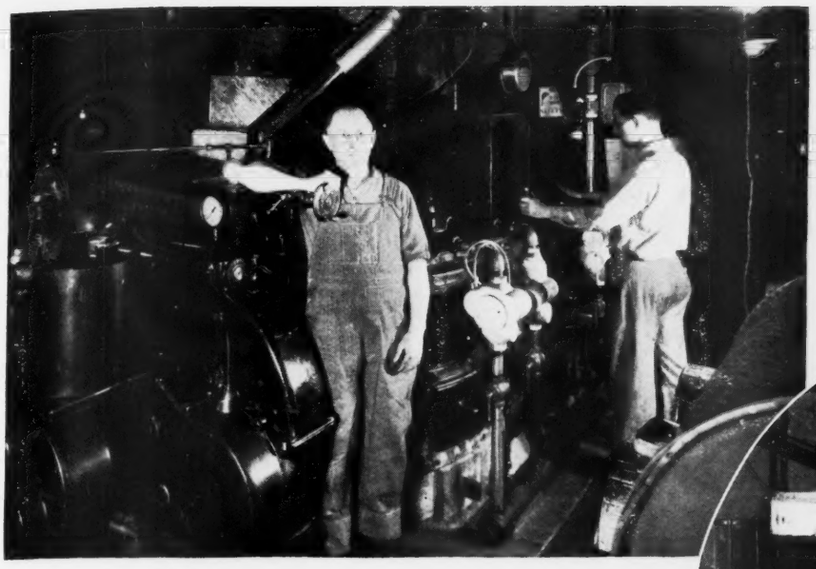
In the process of altering the letter characters for modern newspaper use the designer was compelled to study the *background* of paper in each letter, rather than the printed image.

Counting on a fringe of whiskers on every stroke, curve and serif to add weight or color, the designers ruthlessly chopped away weight. Attenuated finshing strokes, as in "a" and "e," were found to be ink traps. Thinly drawn, almost touching serifs, as in "w," sometimes broke in stereotyping. Often their newsprint crop of whiskers joined them together. More ink-traps and blackened characters.

Lower case "g," the most complex of the alphabet, could not be reduced to a more elemental form (as has been attempted in certain modernistic types) without losing the familiarity of form which is essentially a reading habit in the public eye. So in the modern newspaper face it is given maximum openness. The ball serif gave way to an equally traditional shape which left a full opening instead of a three-quarters surrounded area of background. The intersections of the curving strokes are less acute. The counters, or backgrounds of the loops, are themselves more open.

Meantime word count remains as a designer's strict limitation. It would have been easy to open up a thinner, sturdier face to meet the exacting requirements of dry mats, rubber rollers, soupy ink and fuzzy newsprint. The present-day newspaper face doesn't exact that penalty with its legibility. It has compresed many thousands of dollars into higher content of news and classified matter. This is, perhaps, the ultimate test of design, final proof of the skill in shaving off superfluous thousandths of an inch in all the intricacies of caps and lower case to do away with blots and smudges.

In every art *simplification* has been the supreme test of the designer. It is significant that this modern contest between the painstaking punch-cutter and the colossal printing machine has been solved in terms of refined simplicity. Some day, when Lucian Bernhard has carried out his threat of a new "short-hand" type that will change the public's reading habit from basic Roman letters to a system yet to be invented, there may be a simpler, cleaner-printing news type. A type designer's work is never finished.



The Philadelphia Bulletin adopts Kemp Immersion Melting with GAS for one of its 8 ton No. 16 Wood Stereo pots equipped with one Junior and one Automatic. Gas consumption averages 17.4 cu. ft. per plate.

Below, the progressive Lock Haven Express, among the first to install Kemp, figures the return on the investment at 40 percent. The ton and a half Duplex Pot is equipped with one Duplex Pump.

Efficiency

knows no size . . .

Mark it down in your note book, write it on the wall, fix it in your mind . . . . . KEMP SAVES

whether your stereo department ranks with the Philadelphia Bulletin or the Lock Haven Express or in between.

Kemp equipment on one pot at the Bulletin casts 2200 plates per week, the Express casts 90. And though the Express uses twice as much gas per plate, Kemp Immersion Melting is an investment that pays 40 percent! Since the Bulletin's 8 ton pot was converted from coal to GAS and the Express went from electric heat to GAS, direct comparison is not available, but figure its efficiency on your cuff—2218 plates for six issues on 38,600 cubic feet of gas.

Kemp guarantees to cut 40 percent or more off of your stereotyping gas bill. That's not a CLAIM but an open and shut engineering specification on the job. Talk with some of the 60 publishers who have adopted Kemp Immersion Melting in the past 18 months. Then write, wire or phone

THE C. M. KEMP MANUFACTURING COMPANY
405 East Oliver Street, Baltimore, Md. (Telephone Vernon 1166)

KEMP of BALTIMORE

Permanency of Operation

Shown by Early Installations of Electrically-Heated and Controlled Stereotype Pots in Newspaper Plants

By R. F. NEWELL*

ELECTRICALLY-HEATED and controlled stereotype pots completed eight years of entirely successful operation in October, 1933. The first installation went into operation in the new plant of the Waterbury *Republican-American* in October, 1925.

On the eighth anniversary, two more important plants are being added to the long list of those using electrically-heated stereotype pots and a third plant is adding to its installation made several years ago. The Brooklyn plant of the New York *Daily News*, a fine printing establishment erected just before electric heat was applied to the large high production stereotype pots, is being equipped with a new Wood 10-ton electrically-heated and controlled stereotype pot. This equipment is being added to the present installation of two 9-ton fuel fired pots which are equipped with Junior autoplate casting boxes. The new stereotype pot is being equipped with Wood automatic casting equipment.

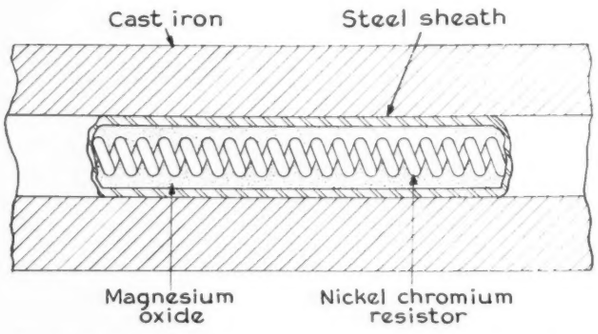


Fig. 1.—Cross-section diagram showing construction of General Electric heating units for use in melting metal in stereotype pots. The nickel chromium resistor wire is imbedded in magnesium oxide enclosed in a steel tube which is swaged to reduce its diameter to the desired form and to compact the magnesium oxide around the resistor. After forming into the required shape, the entire winding is placed in a permanent mold and molten iron is cast around it.

The second new plant adopting electric heat at this time is the Newark *Evening News*, the publishers of which are modernizing their stereotype department and have ordered electric heating and control equipment for an 8-ton stereotype pot.

The heating unit used in all of these installations is of the well-known G. E. Calrod construction, cast-in, and arranged for immersion in the molten stereotype metal. Fig. 1 is a cross-section of the heating element showing the nickel chromium resistor imbedded in magnesium oxide enclosed in the steel tube which is swaged to reduce its diameter and to thoroughly compact the magnesium oxide around the resistor. This provides proper electrical insulation of the resistor from the tube and permits ready flow of heat from the heating element to the tube. After forming into the required shape, the entire winding is placed in a permanent mold and molten iron is cast around it. While the metal is being poured the mold is rotated so that the resulting centrifugal action provides a dense casting which, in turn, insures unobstructed flow of heat from the heating element to the casting and into the stereotype metal. This present-day unit is essentially the same as those originally installed in 1925.

The heat density of the vertical portion of the unit at the molten metal level is about half that in the base of the heating unit, thereby reducing dross formation to a minimum. Age does not affect the efficiency of the heating unit nor its responsiveness to pyrometer indications.

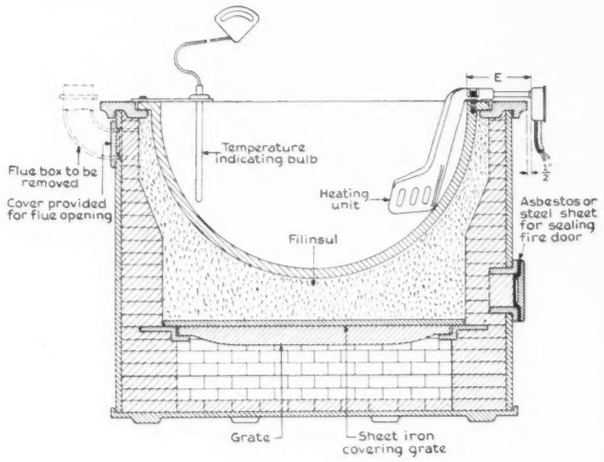


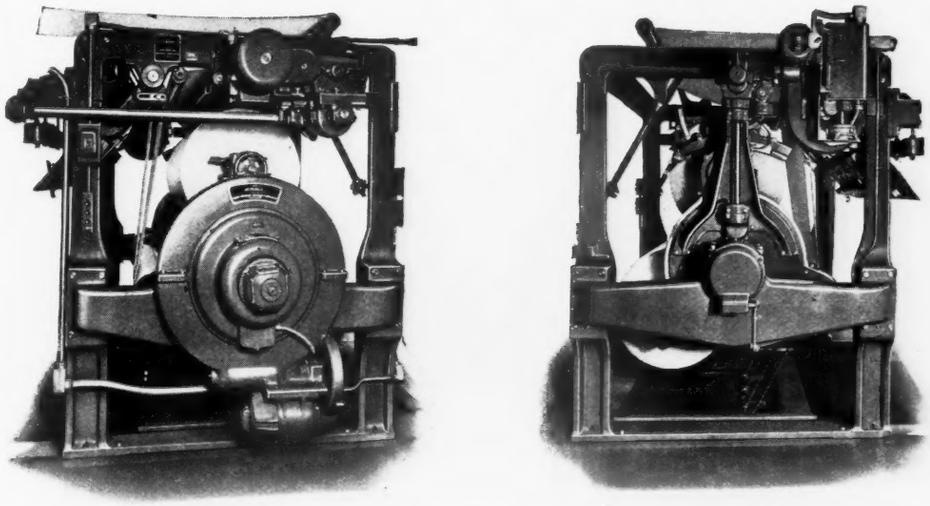
Fig. 2.—Diagram showing construction of externally-fired stereotype metal pot fitted for use with General Electric immersion type heating units, one of which is shown in the drawing. The fire chamber is closed in and filled with Filinsul heat-insulating material. All openings under the pot are stopped off.

Some remarkable operating results have been obtained with these units. For instance, the New York plant of the *Daily News* installed 68 of the 10 kw. units in two stereotype pots and these have been in operation on regular daily production at this plant since, January, 1930, without a heating unit failure. Similar experience is reported by the New York *Herald-Tribune* where sixty of these 10 kw. units in two pots have operated since January, 1930, without a failure. Another example is the New York *World-Telegram*. Here one pot is operated with 30 units and another pot with 22 units and these have operated since late in 1931 without a heating unit failure.

A large percentage of the two hundred and fifteen installations in stereotype metal pots made to date have been made by equipping existing fuel-fired pots with these heating elements and filling the existing fire chamber with heat insulating material. This is possible because with the electric immersion units all of the heat is generated inside the metal in the pot and there is no need for the external fire chamber. This construction is shown in Fig. 2 which is a cross-section through the pot, and its setting, illustrating the original fire brick, together with the light-weight heat insulating material added to fill the fire chamber.

*Industrial Heating Specialist, General Electric Company, New York, New York.

THE AUTOPASTER *is History's First Automatic Device for Replenishing the Paper-Rolls of Web Printing Presses While Running at Full Speed*



The Wood Full-speed Roll-feeding Magazine

In this device, the Autopaster and the Autoreel are combined in a single mechanism. But the Autopaster may be applied to any other make of reel.

Ensuing is a table of increases in press production made possible by the use of Autopasters. It was compiled with great care from the records of actual pressroom performance made during eighteen months of continuous use of four Autopasters. The figures for 5, 6 and 7-roll runs are based upon the records of 3 and 4-roll runs shown herein, and we believe them to be conservative and reliable.

SPEED OF PRESS	35,000	40,000	45,000	50,000
3 Printing Units	15.4%	19.0%	22.4%	26.0%
4 " "	20.8%	25.1%	29.8%	34.6%
5 " "	26.0%	31.4%	37.0%	43.1%
6 " "	31.1%	38.0%	44.5%	51.7%
7 " "	36.2%	43.3%	51.8%	60.3%

This table illustrates not only the value of the Autopaster as an increaser of production, but also the extraordinary value of high press-speed, when it is fertilized by this device.

Coincident with the record of increased press production indicated above, there appeared an average reduction of one-third in printed waste, and substantial but unrecorded savings in white waste. The operating efficiency of this battery of Autopasters was 99.1% for the month preceding the printing of our recent booklet—"What About the Autopaster?"—A copy of which will be mailed on request.

WOOD NEWSPAPER MACHINERY CORPORATION

Makers of Fine Newspaper Machinery 501 Fifth Avenue, New York

Fig. 3 shows a new steel plate construction designed and built by Wood Newspaper Machinery Corporation especially for electrically-heated pots. Since the high temperatures of the fuel firing chamber are eliminated, the fire brick is not necessary and is replaced b ya sheet-steel plate and heat insulation, as shown, is used not only in the space originally provided for the firing chamber, but also between the inner and outer steel plate supports. The outer casing is practically smooth as no firing or ash doors are required. It will be seen from the two sketches that there is considerably more heat insulation with the new construction. The weight of the equipment is lower on account of the elimination of the fire brick, the temperature on the outside of the stereotype pot casing is lower, and

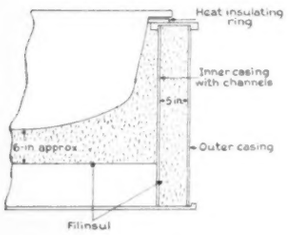


Fig. 3.—Cross-section diagram of new Wood stereotype metal melting pot. The weight of this construction is much reduced over those pots lined with fire brick.

of course, the cost of heat lost into the room is lowered on account of the improved insulation. These improved casings are provided by the Wood Newspaper Machinery Corporation with new stereotype pots sold for use with electric heat or are supplied for use with existing crucibles when changing to electric heat. The Newark *Evening News* publishers are purchasing the new casing to be installed with their present crucible when they change to electric heat.

Above we reported two new plants being equipped with electric heat for the first time. In addition to these, electric

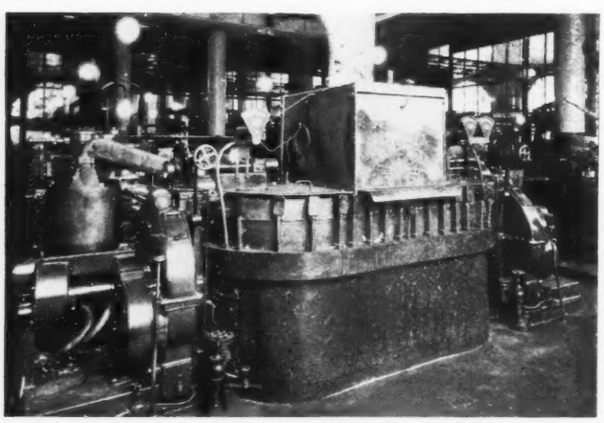


Fig. 4.—Wood 8-ton stereotype furnace equipped with 30 General Electric 10-kw heating units, General Electric control equipment and two Wood automatic casting machines in the plant of the Detroit (Mich.) News.

heat is being installed in a new 10-ton stereotype pot in the New York *Daily News* (New York plant). This is to provide additional stereotype capacity in this plant which has been operating two stereotype pots equipped with G. E. Calrod heating units for the past four years.

Users of electric heat for stereotype metal melting are well impressed with the reliable service this heating means affords. There is definite evidence of this in the recent action of the publishers of the New York *Sun,* who have just had occasion to rearrange the location of their stereotype furnaces. Here was presented a logical opportunity to change to another heating means had this been their desire. However, the fact that they operated seventy of the 10 kw. units for more than six years with complete satisfaction influenced their decision to continue the electric melting method.

Development of Proof Press

For Composing Room Use — There Is a Wide Gap Between Crude Early Models and Today's Perfected Machines

By R. O. VANDERCOOK

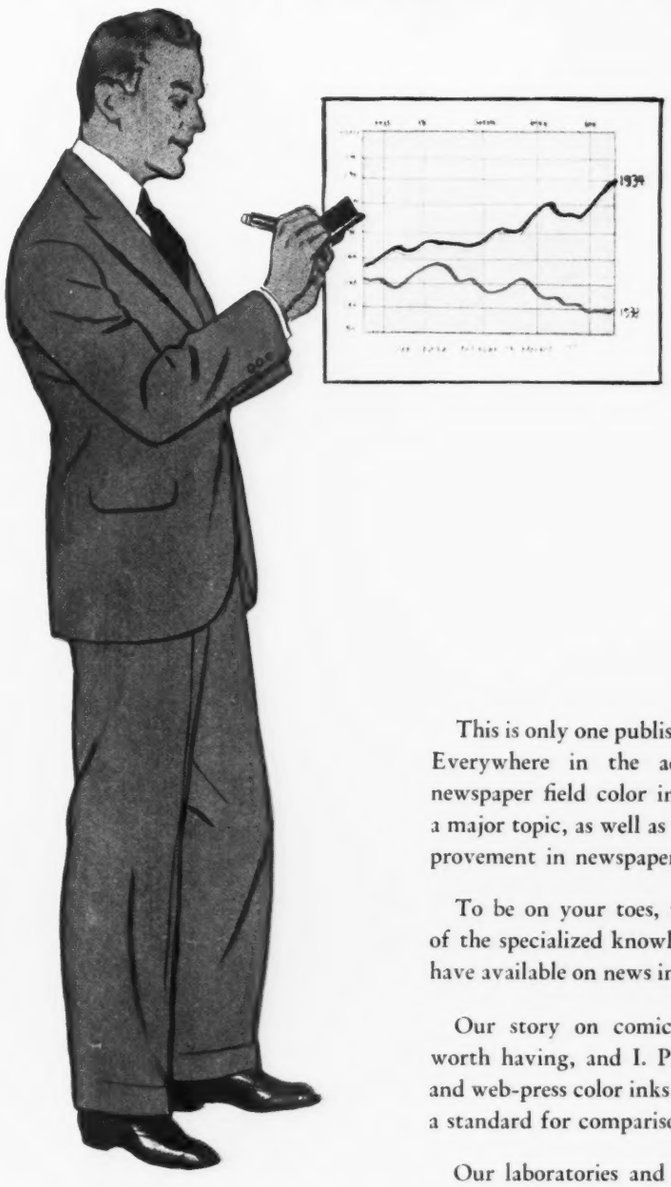
HERE are some facts that may possibly be of interest in regard to the development of the Modern Composing Room Press. I did not start out to build a proof press. Having operated presses I thought that much time could be eliminated in makeready and adjustments if proper attention were given to the fundamental construction of the printing press. The most important elements of the printing press are the impression members. I thought that it would be possible to build a press rigid and accurate enough to eliminate the correction by makeready of the errors in the press. The rigid bed principle seemed to offer the best way out. My first experimental machine was what I called the Rocker Series Press. The idea of this machine was to have a segment of the cylinder rock over a horizontal bed, said segment to be so constructed as to have no deflection from the printing line because of various degrees of printing pressure; therefore I built a model on this general principle. The results in actual impression far exceeded my expectations. I showed the model to one of the larger printers in Chicago whom I had known since I was a boy. He said, "Bob, that is a bully idea for a proof press and there is not a good proof press built," and he forthwith gave men an order to build for him the first of the Rocker Series Presses.

I then took up the proposition of automatic inking. It has always been maintained that unlocked type, from which most proofs are pulled, could not be inked automatically. I found by experimenting that it was possible to ink automatically a single unsupported letter without disturbing it.

Next came the proposition of grippers and feed. Because of the shorter distance of travel I thought it advisable to use the under feed. The ordinary grippers would be very dangerous to use on this type of machines, especially by those who are not trained in handling presses; therefore I found a way to make what I called "safety grippers" which made it impossible for careless workmen to nip the galley or form if the form were placed carelessly on the bed of the press. As compositors are not familiar with the set of inking rollers and considerable time would be required to take ink rollers on and off the press for washing and adjustment, a plan was worked out so that the rollers would never have to be removed from the press for washing, adjustment or storage. A single motion would trip the rollers and remove the weight of the vibrator and distributors from the composition rollers so when the press was standing idle the printing rollers would not be damaged by contact with metal.

My first automatic inking presses used angle rollers to distribute the ink on the inking plate. It was evident that it

"Those charts on color printing in newspapers brought me up short!"



"That exhibit at the newspaper convention made me realize that there had been a lot of developments in newspaper color printing about which I didn't know.

"The growth in volume alone amazed me.

"Of course I knew how comic advertising had been increasing like nobody's business—but the number of new color supplements which have appeared—and some newspapers are even putting out a supplement in the middle of the week!

"Color advertising in newspapers has always spelled grief and disappointment for me. So I was not prepared for the tremendous step-up in the quality of the printing.

"Believe me, the mechanical production people and ink manufacturers must have been staying up nights to make possible the fine results I saw on those charts.

"I am giving a lot more thought to color advertising in newspapers for next year. I made a lot of notes to guide me. Anyone who sells me, had better know more than I do."

This is only one publisher's comment. Everywhere in the advertising and newspaper field color in newspapers is a major topic, as well as the general improvement in newspaper printing.

To be on your toes, take advantage of the specialized knowledge which we have available on news inks.

Our story on comic inks alone is worth having, and I. P. I. news print and web-press color inks have long been a standard for comparison.

Our laboratories and representatives in all parts of the country are prepared to solve your problems. But don't wait for the problems to come up. Let us tell you about the results of our most recent studies and research.

ipi

THE INTERNATIONAL PRINTING INK CORPORATION

75 VARICK STREET, NEW YORK

Branches in the following cities: Atlanta • Baltimore • Battle Creek • Boston • Buffalo • Chicago • Cincinnati • Cleveland Dallas • Detroit • Houston • Indianapolis • Kalamazoo • Kansas City • Los Angeles • Milwaukee • Minneapolis • Nashville New Orleans • New York City • Philadelphia • Richmond • Rochester • St. Louis • St. Paul • San Francisco

would be very desirable to get the ink distribution without the use of composition rollers for auxiliary rollers on the ink plate. I therefore put in parallel riders of small diameter in addition to the vibrator to ride on top of the inking rollers. I found by this method I could eliminate the distribution rollers on the ink plate. I also found that it was not advisable to put the ink fountain on composing room presses because the compositors were not familiar with its use and it would cause much more trouble than it would be of assistance.

All our machines have been beuilt on the rigid bed principle because it is very evident that moving light weights instead of heavy weights make it easier for hand operation and greater rigidity and accuracy can be obtained in the rigid bed construction than with the heavy bed that moved over rollers which were always subjected to wear. Under the rigid bed principle the weight of the cylinder relieves the impression strain while with the movable bed principle the weight of the cylinder caused additional wear to the moving bed supports.

The first year I began to build the machine was in 1909. I constructed 35 models, each one different and built in each instance on special order for some client.

Our Roller Series Press which inks both ways and prints both ways was built on special order from the executives of the American Medical Association, who requested me to build a machine on which could be printed a great number of mailing galleys. The objection was that the machines then in use wore down the type and did not give clear, sharp impressions but they were going to buy another one of these machines unless they could get a machine more suited for their purposes. They were going to pay $190.00 for another press and my agreement with them was that if I could build a machine that would work better they would pay me $190.00 for it. I had no drawings made for this first machine but worked it out part by part in the shop. The machine was almost immediately accepted and put to work in the plant but not in the mailing room for which it was ordered. The press was kept in the composing room because it was found most efficient in taking page proofs of the magazine and all galley work. Immediately I was given an order for several more machines, one of which found its way into the mailing room.

THE MODERN "WATCH DOG"

It took courage to introduce the first press which would print a proof for what it was worth from faulty type, slugs, rules, cuts and so on. The first "machine" with its uncertain construction, mushy tympan and unreliable hand inking was a tradition. But with due perseverance the tradition was uprooted when the boss found finally that what he thought was an expense of no consequence in the composing room was being spent in the pressroom before the actual printing operation could be started. In combination with the modern proof press and by means of it many composing room executive staffs are giving attention to the elimination of errors as well as the attainment of constant printing heights in forms before sending them to the pressroom in order to provide the pressman with a more nearly perfect surface from which to print. In time certain elements of press makeready as we know it now will be entirely eliminated.

Our latest catalog illustrates 24 different sizes and models of Composing Room Presses, each one better suited for some particular purpose, regardless of price. It does not show our Rocker Series Press. This model was discontinued primarily

Continued on page 72

Kohler High-Speed Paster

For Replacing Expiring Newsprint Roll With Fresh Roll at Continuous Speeds with Uninterrupted Operation

By D. G. BERNARD*

HIGH-SPEED pasters and the machines for making them have been a topic of considerable discussion during the past year. It is a subject that has a vital bearing on the production and operation costs in any modern newspaper plant.

While the essentials of this function have been known for a long time, the problem of combining them into a simple and compact device entails numerous difficulties. Manufacturers have devoted their time and abilities in this direction for long periods, with the result that there are now several machines on the market for this purpose.

The successive steps necessary to making a high-speed paster are as follows:

1. The fresh roll must be prepared.
2. The prepared roll must be brought to web speed.
3. Pasting contact must be made between the running web and the fresh roll.
4. The old web must be severed following the paster and the spent core stopped.

The principle of the press-driven belts employed in the Kohler web control offered a substantial advantage in the design of our paster, eliminating the need of any other equipment for the preliminary driving of the fresh roll.

A unique and simple method of roll preparation enabled us to make effective pasting contact at speeds, without involving the necessity of involved timing devices. This will be detailed further along in this discussion.

Two other requirement remained, making the pasting contact, and severing the web after the paster had been made. These were met by mounting a freely running, soft-rubber pasting roller and an automatic web-cutting blade above the reel.

Small automatic brakes control the tension on the expiring rolls as the rolls leave the belts. It may be pointed out that in our design, the reel is revolved in the opposite direction to what has hitherto been the practice. However, this is not to be considered as "backward" rotation, as the question of rotational direction is of no moment, as long as pasters are effectively made, and running rolls properly tensioned. Practical operation has amply proved this to be true.

The Kohler Paster, therefore, requires but the addition of a rubber roller and a web cutter, together with the spindle brakes to convert our standard reel and tension to high-speed operation.

*D. G. Bernard, Kohler Brother, Engineers and Manufacturers, Chicago, Illinois.

★ Superintendents!

who are interested in the progress of the newspapers with which they are associated and who are conscientiously striving to promote their best interests, cannot afford to overlook THESE IMPORTANT FACTS:

1. ***The backbone*** **of every newspaper business is the income received from its DISPLAY ADVERTISING.**

2. ***The value of the space*** **sold by newspapers to users of Display Advertising is based upon the results obtained by Advertisers from the space they use.**

3. ***The results obtained*** **by Advertisers are greatly influenced by the manner in which their Display Advertisements are presented to readers of the newspaper.**

4. ***The best presentation*** **of Display Advertisements requires a variety of typographic materials made available through the use of an elastic method of composing-room operation—which can only be completely secured through THE MONOTYPE SYSTEM.**

Wherever type and materials cast on the Monotype are available the best typography is combined with the greatest speed and economy in the production of all Display Advertising.

THE *Proof* . . .

These winners of first, second and third prizes for the best typographic appearance in three classes of daily newspapers which competed for the Francis Wayland Ayer Cup are operating the Monotype System for setting display composition of all kinds.

THE WINNERS

Over 50,000 Circulation—

***1st*—New York Herald-Tribune**
***2nd*—The Milwaukee Journal**
***3rd*—The Des Moines Tribune**

10,000 to 50,000 Circulation—

***1st*—The Sheboygan (Wis.) Press**
***3rd*—Appleton (Wis.) Post-Crescent**

Up to 10,000 Circulation—

***2nd*—Peoria (Ill.) Transcript**

LANSTON MONOTYPE MACHINE COMPANY
Monotype Building, 24th and Locust Streets
PHILADELPHIA, PENNA.

Composed in Types of the Monotype Bodoni Family

Uniform and accurate preparation of the fresh roll is of prime importance. This is accomplished by the use of a combination marking gage and straight edge, which insures a clean, straight leading edge on the rolls, together with accurate location of the glued areas. These glued areas are so arranged that they will clear the belts during the preliminary driving period.

A re-enforcing tape is laid clear across the leading edge, and perforated tabs applied over this tape. The ends of the sheet are then beveled, and ordinary splicing compound applied at the indicated points. Marking flags are then applied

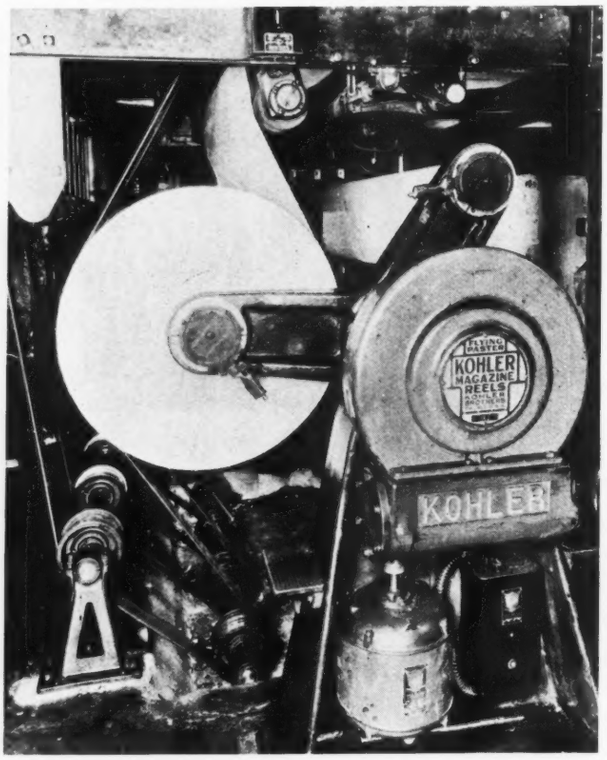


Photo showing installation of Kohler Paster in operation in plant of Los Angeles Shopping News. *This picture is an end view of the reel after a paster has been made with the spent core still in place. The end of the pasting roller and the cut-off mechanism can be seen just above the reel.*

to each end of the roll so that the pasted copies can be easily picked out in the mailing room.

The use of dispenser units for the tape and tabs assure uniformity and speed in this part of the operation.

There are two alternatives in the handling of the fresh rolls prior to the pasting contact. The roll can be brought to web speed before contacting the running web, or it can be moved bodily against the web while stationary, and then released, making only a partial turn before the paster occurs.

The former is the only method that will allow pasters at substantial speeds, but involves the necessity of a driving device for the fresh rolls, together with more or less complicated timing means for regulating the instant of pasting contact.

The press-driven web control belts of the Kohler device eliminate any need of special driving means. Due to the fact that these belts act on the periphery of the rolls, no compensating or adjusting is required for various diameters. The running web is not called on to perform additional work, and ample power and time are available to insure the roll being at speed. As the fresh roll is under the continuous control of the belts from the time of initial engagement until the expiring diameter is reached, there are no abrupt changes in tension during the paster. As a matter of fact, there is a slight decrease in web tension just as the paster occurs.

Moving the fresh roll against the web while stationary sets a definite limit as to pasting speed, as the web can only do a limited amount of work, and the roll cannot be accelerated to high speed in the time available. This second method was the standard method of changing rolls used on all reels before the advent of high-speed pasters.

It has been the custom to prepare rolls for pasting with the glued areas occupying from one-fifth to one-fourth of the circumference. When a roll is prepared in this way, and driven at web speed prior to the pasting contact, it becomes necessary to resort to timing means to regulate the instant of contact with the web in relationship to the glued area on the revolving roll.

The method of roll preparation on the Kohler paster does away with any necessity for timing devices, and consistent operation at high speed is possible, as the fresh roll is at web speed at the time of the paster. This is accomplished by applying the splicing compound in a straight line, parallel with the axis of the roll, and occupying but a very small portion of the circumference. The possibility of incorrect contact with this method is less than one per cent, so small as to be entirely negligible, and months of successful operation have amply proved this fact.

As the reel revolves, the expiring web passes under the soft rubber pasting roller, which provides a firm and uniform pressure clear across the entire width of the web. The revolving fresh roll is pressed against the web at this point, and a very solid and practically invisible splice is the result.

Reflector lights are installed which render the running web partially transparent to the operator. The double web occasioned by the paster is instantly visible, a button is pressed, and the web cutter immediately swings down, severing the web clear across. After the cut off, the blade instantly resets itself automatically. The web cutter is operative only with the various parts of the machine in their proper position. This method is very simple, and cut-offs have been made with the paster complete in only two copies. In regular operation there are usually six copies thrown out per paster.

The small spindle brakes serve to maintain the tension on the expiring web until the cut-off occurs, immediately stopping the core thereafter. These brakes are controlled by gravity, through a cam and lever system, rotation of the reel bringing them into and out of engagement at the proper intervals.

The only additional control necessary to the standard reel and press controls is the cutter release button and the light switch. The entire reel, paster, and press control is located on the loading side of the reel, and the operator does not have to move from one spot to another. Immediately following the paster he is ready to load another roll, and this does not require the immediate removal of the spent core.

From the foregoing description it can be seen that the entire pasting function is performed by simply rotating the reel, the operator having but one additional control button to handle.

Our installation in the plant of the Los Angeles *Shopping News* was the first on record of a press equipped throughout with high-speed pasters, and was the first experience of these pressmen with this type of equipment.

Results in this plant have been quite satisfactory. Entire editions have been run without touching the press buttons from start to finish. Pasters have been made as high as 36,000 per hour and are regularly made at 30,000 per hour.

We have shown an operating efficiency of better than 95% ever since the installation was completed. There has been a substantial decrease in both core and printed waste, together with a favorable increase in production.

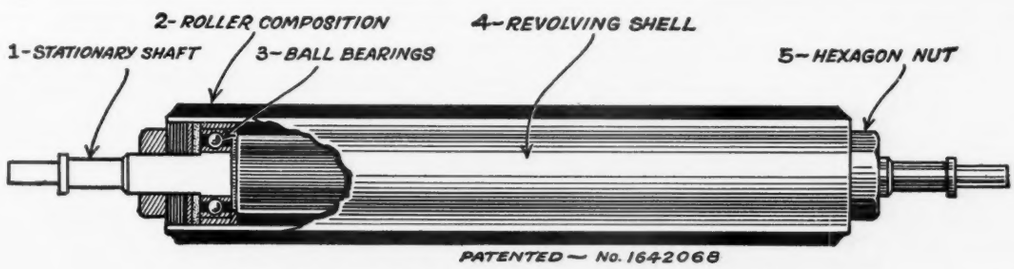
At the present time, test machines are in daily operation in the plants of The New York *Times* and the St. Louis *Globe-Democrat*.

Only these firms can supply you with

HART'S *Ball Bearing Roller Core*

THE GOSS PRINTING PRESS COMPANY
CHICAGO, ILLINOIS

C. B. COTTRELL & SONS COMPANY
WESTERLY, R. I.



The Core That Made the Rubber Roller Practical

EVERY progressive roller manufacturer today is equipped with steel molds as near perfect as modern science can make them, but no matter how true rollers may be when delivered, the expensive equipment of the roller maker is worthless if the sockets and core ends are worn.

Every part of the press has been improved except the core, which is more important than the composition, and no doubt your roller trouble is due to your present core. This difficulty can be overcome if every printer would insist upon HART'S BALL BEARING ROLLER CORES when ordering new presses, otherwise your press may be equipped with the old antiquated core that has never been changed or improved.

Here are the advantages and savings of HART'S BALL BEARING ROLLER CORE

1. Sockets and Core Ends
Can never become worn as the shaft remains stationary.
Saving.....100%

2. Roller Composition
More than half of the friction as well as heating up of the core ends eliminated, reduces wear and tear on composition.
Saving 20% to 40%

3. Power
Three-quarters of the revolving weight being stationary, causes less friction and reduces power.
Saving 30% to 40%

4. Oil
Constant Oiling Unnecessary. Lubrication can be taken care of by your roller maker if necessary.
Saving.....50%

5. Wash Up
Washing up can be done in half the time owing to the roller revolving so easily without removing from the press.
Saving.....40%

6. Cuts and Plates
Owing to less weight and friction, the wear and tear on cuts and plates naturally is reduced.
Saving.....10%

WM. C. HART COMPANY, Inc.
PRINTERS' ROLLERS

137 GREENE ST., NEW YORK CITY **259 EXCHANGE ST., ROCHESTER, N. Y.**

Octagonal Table for Proofreaders

By FREDERICK K. FORSTALL*

IN MOST printing plants, where the pi-line detective is looked upon as a necessary evil, he is usually to be found stuck away in some cubby hole, evil smelling, dark and dusty. With the New Deal in vogue, we on the *Times-Picayune* and the *New Orleans States* thought it fair to give some consideration to the humble comma chaser.

Any unwanted space under some offside stair-case or in some out-of-the-way corner is allocated in many plants to these boys of the sharp vision. Because of the shape of the space given them, getting a decent seating arrangement (whereby each reader would be close to the head proofreader and at the same time allowing enough elbow room to make them comfortable) has been something of a problem.

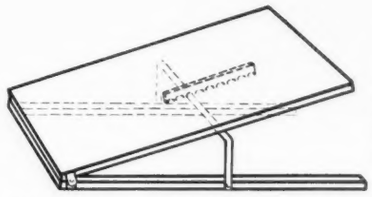
After a good deal of thought on the subject, we decided to give them more room and to adopt the universal copy desk system of seating the men around a U-shaped desk with the head proofreader in the middle or slot. We were about to proceed on this plan when C. C. Chadwick, southern branch manager of the Intertype Corporation, told us of a table he had seen somewhere during his travels over the country which

View of proofreaders' table, built by George E. Downes, plant machinist, for Frederick K. Forstall, mechanical superintendent of the New Orleans Times-Picayune. *The table was constructed at a cost of slightly less than $50. Each station is illuminated with a lamp, and each of the eight compartments in the revolving top is provided with a label carrying the proofreaders' name. The head proofreader assigns work to each reader from an endless belt conveyor by placing proofs and copy in the several compartments. Each compartment is provided with a hook upon which are hung the proofs after they have been read. Each reader is supplied with an adjustable reading desk which is shown in the diagram.*

not only would save floor space but would facilitate the handling of proofs between head reader and the rest of the staff to quite an appreciable degree.

The table he described was octagonal in shape with a revolving top and partitioned off into eight pigeon-holes. With this idea we constructed our own table with the result pictured herewith.

The table was made entirely of 16-gauge black iron and is 89 in. across from point to point. There are eight 34-in. fronts which taper back 44½ in. to an iron tube upright. This tube, besides supporting the central weight of the table contains the electrical wiring for the lighting fixtures. The table top, which is reinforced with 1½ in. by 1½ in. by ⅛ in. angle iron in the shape of spokes as in a wagon wheel, is supported on 1½-in. iron pipe, 29 in. long, and is fastened to the floor with round flanges.



Each proofreader is provided with a device shown in the diagram on which to put his proof. Each reading desk was constructed from a discarded eight-colum brass galley hinged at the front. A bail extends from the supporting frame under the adjustable desk. A toothed strip is fastened underneath the desk and the incline of the desk itself may be adjusted by engaging the bail in any suitable notch of the toothed strip.

The revolving top is made of the same material but is only 19½ in. from outside to hub and is mounted on the center tube with a ball-bearing thrust collar. Ball-bearings, running in an inside race, are also mounted in the upper part of the revolving top to eliminate side sway and to make the top rigid and yet easy to turn.

Seven readers and the head proofreader are accommodated at this commodious table. The proofs are brought in to the head proofreader on an endless belt conveyor and are deposited in a basket at his right. He sorts the copy and files it in the pigeon-holes which carry the names of the different readers in little holders on the front. After the proof has been read the proofreader hangs it on a hook provided for that purpose which is also mounted on the front of the top and the top is turned to the head reader who strips the hooks and sends the corrected proofs back to the composing room on the conveyor.

Books of reference, dictionaries, etc., are placed on top of the revolving pigeon-holes where they are accessible to each proofreader without anyone having to move from his place.

The table was built in our plant by George E. Downes, plant machinist, at a cost, including electrical fixtures, paint, etc., of slightly less than $50.00.

*Mechanical Superintendent, The *Times-Picayune* Publishing Co., New Orleans, La.

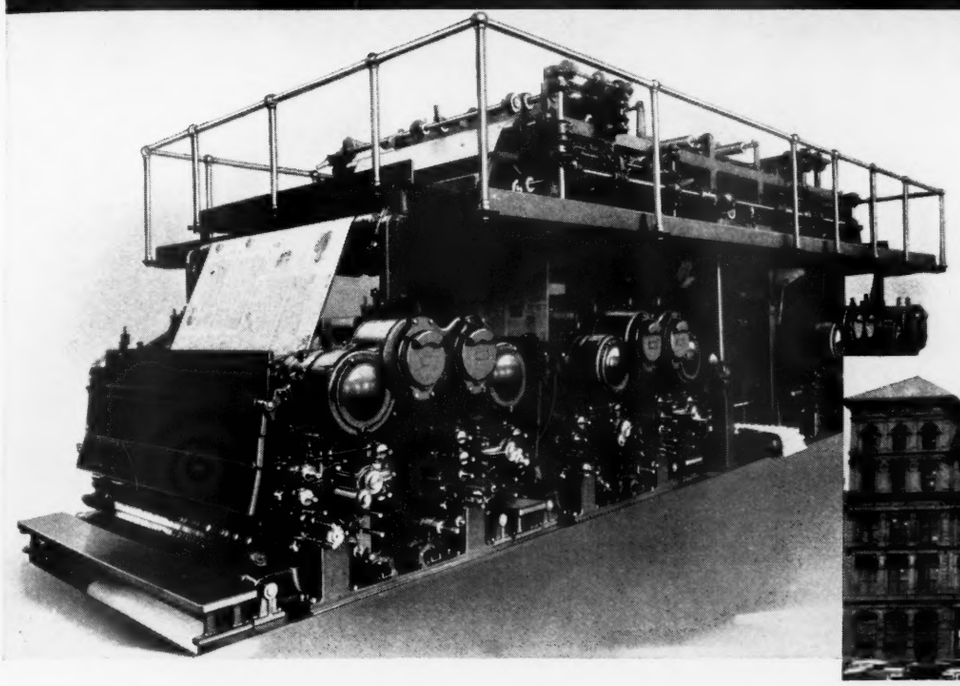
Narrow Grippers for Platen Presses

Improvements and changes in print shop equipment and practices have been and probably always will be comparatively slow. If your platen press is fitted with wide gripper bars, the left one may be reduced in width. The wide gripper at the left is continually in the way of the pin on that side, when printing large forms. With a narrow gripper at that side, it can be placed to grip the paper on that margin between the pin and the form; or if there is not enough margin for that, it may be slipped to the left out of the way.

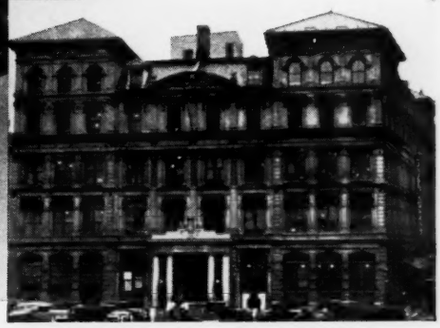
Take off the left gripper bar, clamp it in a vise and, with a hack saw, cut it down to approximately 3/16 in. at the small end, and ⅜ in. at the other. Then dress the rough edges with a file.

Press makers have eliminated a source of trouble which is caused through setting a gripper so far to either side that the roller truck track strikes it, thereby slurring the impression and straining the press. On the new presses the grippers cannot be set too far to the side. Inexperienced pressmen (as well as experienced ones) have spent valuable time trying to eliminate slurs caused by the truck track striking the edge of a gripper.—*L. J. Whiteman, Clovis, N. M.*

Better Rollers make Better Pictures so the BOSTON DAILY RECORD ORDERED GOODRICH . . .



• *Wood Double Sextuple Press, at Boston Daily Record, 100% equipped with Goodrich Rubber Rollers.*



• *Boston Daily Record Building.*

Pictures predominate in the tabloid Daily Record of Boston, Mass. Naturally, then, a good deal of time was spent by the management in finding the rollers that would print clear and sharp.

A year ago Goodrich Rollers were selected for a Wood Double Sextuple Press. Results have been so far superior to any other roller ever used that another Wood Press, just purchased to care for the growing circulation of this paper, is equipped entirely with Goodrich Rollers.

Like the Boston Daily Record, scores of papers have proven by actual use that Goodrich Rubber Rollers speed up production and improve it at the same time. With these rollers you have no shutdowns for washups, you reduce resetting, and you have clear, clean printing throughout the run.

Goodrich Rollers are practically free from temperature distortion, and they outlast any other rollers you ever saw.

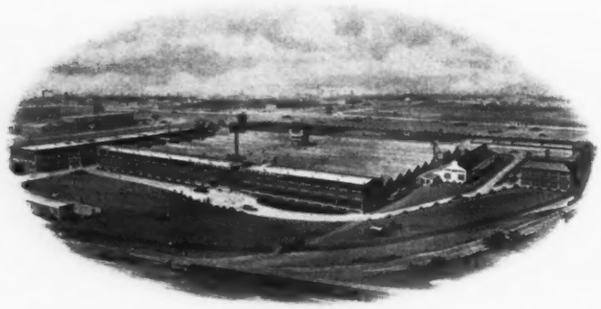
Goodrich Rubber Rollers help the production department because they eliminate trouble, and they help circulation and advertising departments by producing a better looking paper that is easier to sell. Get complete facts on what Goodrich Rollers can do for you. Write

NILES & NELSON, INC., EXCLUSIVE DISTRIBUTORS
75 West Street, New York · 400 West Madison Street, Chicago, Ill.

Goodrich *Printers'* Rollers

SKF Consolidates

After twenty years in New York City, the executive offices of S. K. F. Industries, Inc., have been consolidated with its Philadelphia plant. The Philadelphia plant is modern in every respect. The consolidation of the executive, sales, engineering, research and production departments into one unified organization will enable S. K. F. to give better service and engineering advice to industry, including makers and users of printing machinery.



The S. K. F. Industries, Inc., is peculiarly fitted to make scientific studies and to advise in anti-friction problems and design, since it is part of a world-wide organization maintaining six research laboratories, fifteen plants and two hundred and fifty factory branch offices throughout the world.

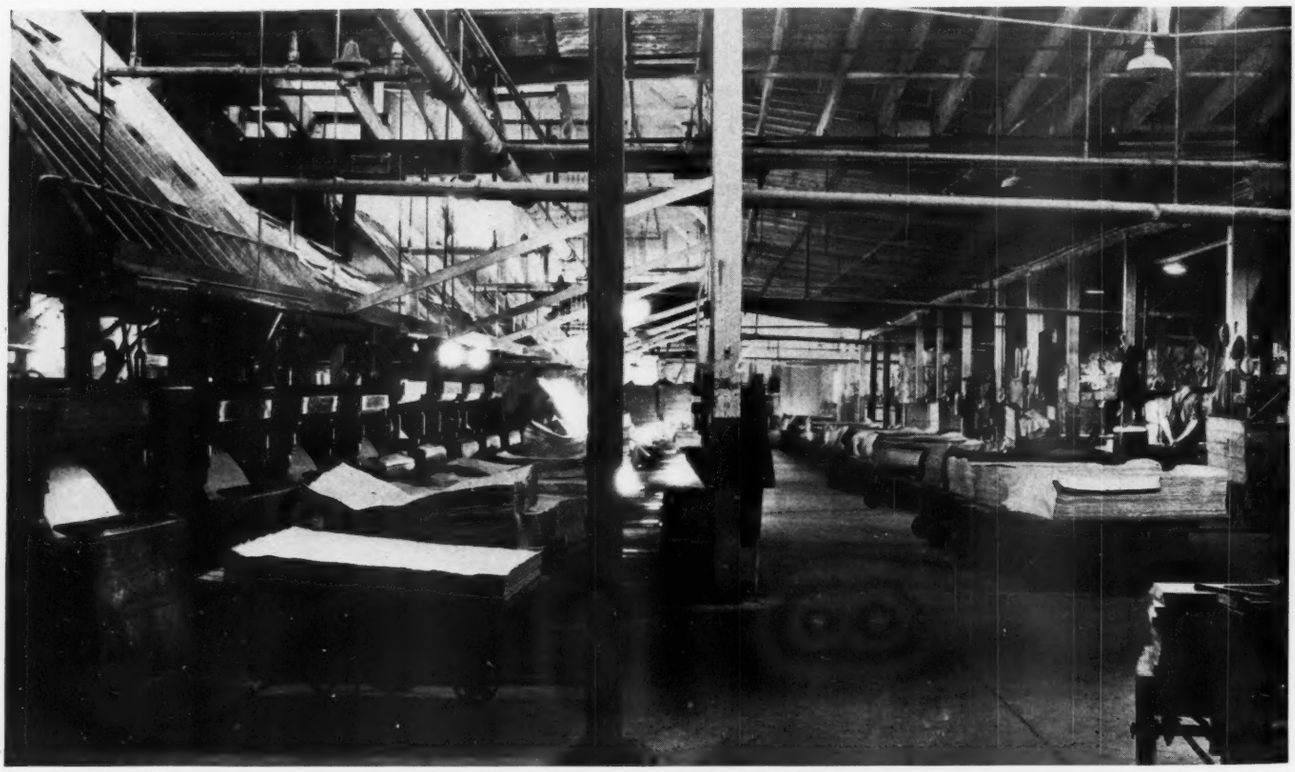
Among its 23,000 employees 28 languages are spoken. The special ore it requires comes from its own mines, and special steel from its own mills. The charcoal it uses in processing its special steels comes from its own forests.

In the belief that a precision product requires every modern facility, the company has not only scientifically grouped its departments, but has made great expenditures for latest scientific and mechanical devices in order to move forward with the progress of industry.

Becomes Cleveland Manager

Frank F. Novy, Machinery Special Representative for Chicago and central territory of ATFSC was appointed Manager of ATF Cleveland Branch May 14th. He succeeds M. M. Daniels, Salesman and Manager of Cleveland since 1885, who retires on account of illness.

The Picture Story of "Wood Dry Mats in the Making," No. 5

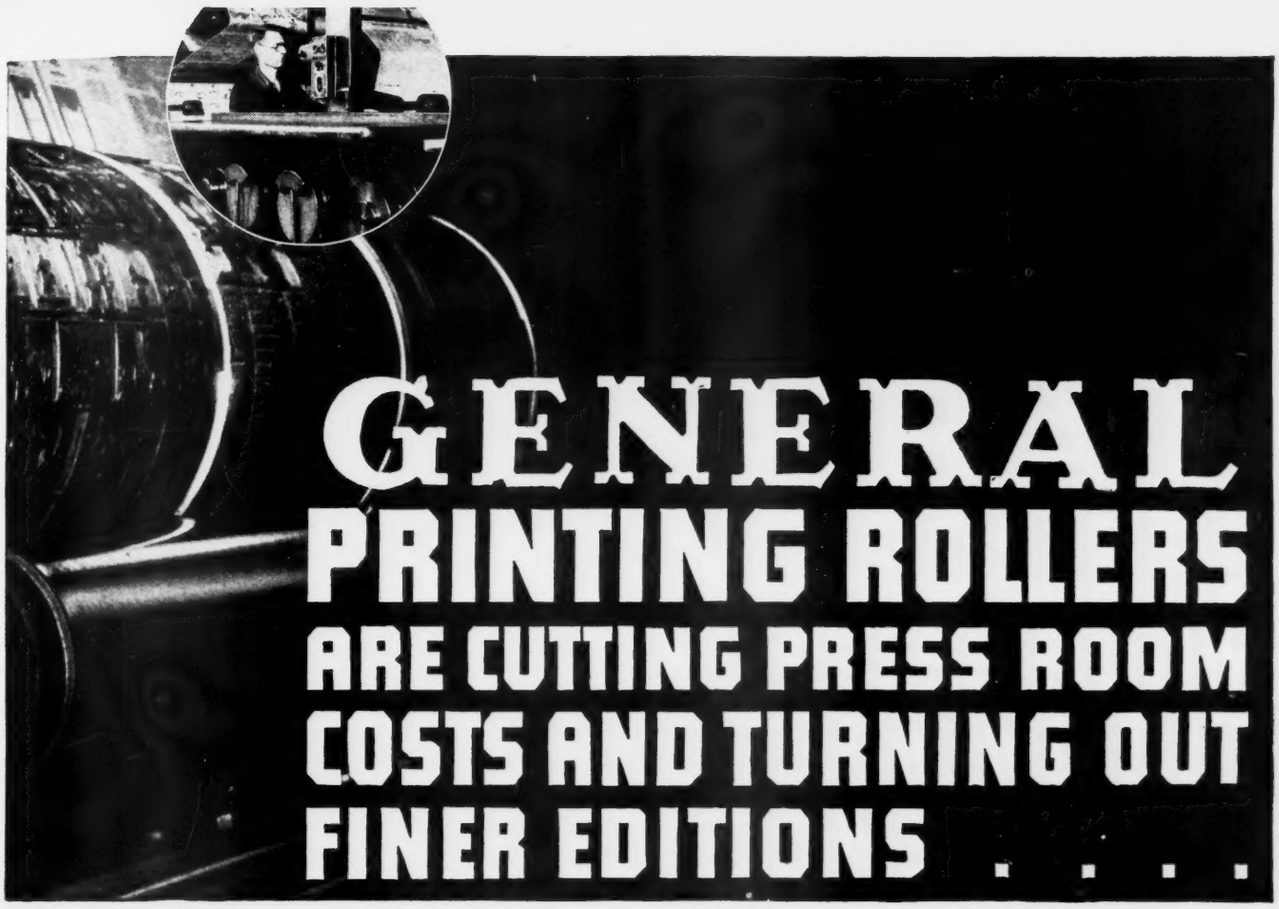


Daylight Adds to Healthful Working Conditions

THIS picture was taken without the aid of special lighting facilities. It typifies the clean, wholesome atmosphere which prevails throughout the mill, making excellent working conditions for our employees. Furthermore, it represents straight line production, showing a part of the machine used to make Wood dry mats, and also a section of the apparatus used in the drying process.

WOOD DRY MATS ALWAYS UNIFORM

WOOD FLONG CORPORATION Hoosick Falls, New York



GENERAL PRINTING ROLLERS ARE CUTTING PRESS ROOM COSTS AND TURNING OUT FINER EDITIONS . . . .

Check These Features Against Your Past Roller Experience

1. Dependable top-speed production under all conditions of temperature and humidity. **2.** Perfect ink distribution with light setting—saves ink. **3.** Non-absorbent compound—minimum and absolutely uniform swelling. **4.** Accurate rolling from end to end. **5.** Wash-ups and resetting eliminated. **6.** Clear, clean printing throughout entire run—better halftones—sharp, contrasty solids. **7.** Long service life with less regrinding.

Write for complete technical data and performance facts. See the General rollers on display at the A.N.P.A. Mechanical Conference.

The General Rubber Printing Roller is the product of years of research in perfecting better compounds and improved processes. Over three years of severe service tests in large newspaper plants have proved its superior qualities.

Distributed by

THE VOGT ROLLER CO., INC.

LOUISVILLE, KY.

Manufactured in AKRON, OHIO by

GENERAL TIRE & RUBBER COMPANY

Save Arguments *with* CONTROLLED SHRINKAGE

WHEN the space order, the invoice and the foot rule say three different things, human beings are pretty sure to be drawn into the argument.

Certified Mats are mill conditioned to give Controlled Shrinkage — meeting different shrinkage specifications, according to your preference.

This is only one of the features that is winning so many new friends for Certified Mats, while it gratifies the old ones. Certifieds mold more easily, scorch quicker and cast beautiful plates with minimum wastage. Press hours are met, readers and advertisers pleased.

For dependable stereotyping
use Certified Dry Mats—
Made in the U. S. A.

THE CERTIFIED DRY MAT CORPORATION
342 Madison Ave. New York, N. Y.

Certified DRY MATS

Introducing Mr. Brundage

This introduction of Harvey E. Brundage to readers of Printing EQUIPMENT Engineer *is to acquaint you with the fact that he has has been appointed Manager of Eastern Territory for the Cline Electric & Mfg. Co. with headquarters in the Daily* News *Building, New York.*

The Cline Electric Manufacturing Company is pleased to announce the appointment of Harvey E. Brundage as manager of its Eastern territory with offices located in the Daily News Building, 220 East 42nd Street, New York, New York.

During the past several years Mr. Brundage has been assisting the late Mr. Dresser in the eastern territory, having formerly been in charge of the western district with headquarters at San Francisco.

Mr. Brundage is an electrical engineer and has had wide experience in the application of motors and controllers to printing machinery. After leaving college he was for some time with the Westinghouse Electric & Manufacturing Company in Chicago. He has many friends among the printing and newspaper fraternity from coast to coast.

Another Size Added to Ideal News

Probably the most prolific series of newspaper type faces ever brought out, according to Alden T. Mann, Jr., vice president in charge of sales of Intertype Corporation, is Ideal News.

Beginning with the 6½ point size, designed for the New York *Times* in 1926, this series now includes twelve sizes ranging from 5½ to 12 point. The latest size is 8½ point which is duplexed with bold as shown below, cast on a 9 point slug.

One-line examples of each of the twelve sizes of Ideal News are also shown here:

This line is 5½ point Ideal News with bold
This line is 6 point Ideal News with bol
This line is 6½ point Ideal News with
This line is 6¾ point Ideal News with
This line is 7 point Ideal News with
This line is 7½ point Ideal News wit
This line is 8 point Ideal News with
This line is 8½ point Ideal News w
This line is 9 point Ideal News wi
This line is 10 point Ideal New
This line is 11 point Ideal N
This line is 12 point Ideal

Considering the several combinations and various sizes in which Ideal News has been made, Mr. Mann said that 7500 different matrix punches have been required by Intertype in cutting Ideal News, and that about two million matrices of this series are carried in stock for the convenience of present users.

Who is *using* VULCAN Press Blankets?

Here are 304 of them . . . less than ONE-HALF our total list

Abilene, Texas, Reporter-News
Albany, N. Y., News
Allentown, Pa., Chronicle-News
Alton, Ill., Telegraph
Altoona, Pa., Mirror
Amsterdam, N. Y., Recorder
Anderson, S. C., Independent-Tribune
Anniston, Ala., Star
Antigo, Wis., Journal
Ardmore, Pa., Main Line Times
Asbury Park, N. J., Press
Asheville, N. C., Citizen-Times
Ashland, Ohio, Times-Gazette
Atchison, Kans., Globe
Atlanta, Ga., Journal
Akron, Ohio, Times-Press
Aberdeen, S. D., American-News
Bartlesville, Okla., Enterprise
Bartlesville, Okla., Examiner
Belleville, Ill., News-Democrat
Bethlehem, Pa., Globe
Big Spring, Texas, Herald
Billings, Mont., Gazette
Binghamton, N. Y., Sun
Birmingham, Ala., Post
Bloomington, Ill., Pantagraph
Bloomsburg, Pa., Press
Boise, Idaho, Statesman
Boston, Mass., Transcript
Bridgeport, Conn., Times-Star
Brownsville, Texas, Herald
Buffalo, N. Y., Times
Burlington, Vt., News
Binghamton, N. Y., Press
Bristol, Va., Herald-Courier
Buffalo, N. Y., Catholic Union Times
Buffalo, N. Y., News
Birmingham News and Age Herald
Bristol, Conn., Press
Camden, N. J., Courier
Cedar Rapids, Iowa, Gazette
Champaign, Ill., News-Gazette
Charleston, S. C., Post
Charleston, W. Va., Gazette
Charleston, W. Va., Mail
Charlottesville, Va., Progress
Chicago Movie News
Chicago Tribune
Chicago Illustrated Times
Chicago Heights, Ill., Star
Chico, Calif., Record
Cincinnati Enquirer
Cincinnati Post
Clarksburg, W. Va., Telegraph
Cleveland, O., Consolidated Press
Cleveland Plain Dealer
Cleveland Press
Cleveland Shopping News
Columbia, S. C., State
Columbia Missourian
Columbus, Ind., Republican
Columbus, Ohio, Citizen
Columbus, Ohio, Dispatch
Columbus, Ohio, State-Journal
Columbus, Ga., Ledger-Enquirer
Connellsville, Pa., Courier
Corning, N. Y., Leader
Corpus Christi, Tex., Caller-Times
Cumberland, Md., News
Cumberland, Md., Times-Alleganian
Cincinnati, Ohio, Premier Press
Charlotte, N. C., News
Chattanooga, Tenn., News
Coffeyville, Kan., Journal
Dallas, Texas, Dispatch
Dallas, Texas, News
Dallas, Oregon, Chronicle
Danville, Ill., Commercial-News
Danville, Va., Register
Dayton, Ohio, News
Daytona Beach, Fla., Sun-Record
Decatur, Ill., Herald-Review
Denver, Colo., Post
Des Moines, Ia., Register-Tribune
Detroit, Mich., News
Detroit, Mich., Polish Daily News
Dunkirk, N. Y., Observer
Durham, N. C., Herald-Sun
Detroit Polish Daily Record
East Rutherford, N. J., Advertiser
Edwardsville, Ill., Intelligencer
El Dorado, Kansas, Times
Elgin, Ill., Courier-News
Elmira, N. Y., Star-Gazette
El Paso, Texas, Times
Enid, Okla., News-Eagle
Erie, Pa., Dispatch-Herald
Evansville, Ind., Courier
Easton, Pa., Express
East Liverpool, Ohio, Review
Evansville, Ind., Press
Fall River, Mass., Herald-News
Flint, Mich., Journal
Fort Wayne, Ind., Journal-Gazette
Fort Wayne, Ind., News
Frederick, Md., News-Post
Fredericksburg, Va., Free Lance
Glens Falls, N. Y., Post
Green Bay, Wis., Press-Gazette
Greensburg, Pa., Tribune-Review
Galesburg, Ill., Register-Mail
Hagerstown, Md., Herald-Mail
Hammond, Ind., Times
Hanover, Pa., Sun
Harrisburg, Pa., Telegraph
Hartford, Conn., Times
High Point, N. C., Enterprise
Hornell, N. Y., Tribune-Times
Houston, Texas, Chronicle
Hudson, N. Y., Register
Iowa City, Iowa, Press-Citizen
Ithaca, N. Y., Journal-News
Indianapolis, Ind., Times
Jackson, Mich., Tribune
Jackson, Miss., Clarion-Ledger
Jackson, Miss., News
Jacksonville, Fla., Times-Union
Jamestown, N. Y., Journal
Jamestown, N. Y., Post
Johnstown, Pa., Tribune
Kansas City, Mo., Barrick Pub. Co.
Lake Charles, La., American-Press
Lansing, Mich., State Journal
Lincoln, Nebr., Star
Lincoln, Nebr., State Journal
Little Falls, N. Y., Times
Little Rock, Ark., Democrat
Lockport, N. Y., Union-Sun-Journal
Louisville, Ky., Herald-Post
Lowell, Mass., Courier-Citizen
Lynbrook, N. Y., Star
Lynn, Mass., Telegram
Lewiston, Me., Sun
Lexington, Ky., Leader
Louisville, Ky., Courier-Journal
McKeesport, Pa., News
Madison, Wis., State-Journal
Mahanoy City, Pa., Record-Tribune
Malone, N. Y., Telegram
Mansfield, Ohio, Journal
Marietta, Ohio, Times
Marion, Ohio, Star
Marshalltown, Iowa, Times-Repub'n
Martinsburg, W. Va., Journal
Matoon, Ill., Journal-Gazette
Memphis, Tenn., Commercial-Appeal
Meriden, Conn, Record
Miami, Fla., News
Michigan City, Ind., News
Middletown, Conn., Press
Middletown, Ohio, News-Journal
Milwaukee, Wis., Journal
Minneapolis, Minn., Tribune
Mobile, Ala., Press-Register
Moline, Ill., Dispatch
Montgomery, Ala., Advertiser
Mount Vernon, N. Y., Argus
Mount Vernon, O., Republican-News
Martins Ferry, Ohio, Times
Memphis, Tenn., Press-Scimitar
Miami, Fla., Herald
Morgantown, W. Va., News-Post
Nashville, Tenn., Banner
Newark, N. J., News
Newark, N. J., Star-Eagle
New Britain, Conn., Herald
Newburg, N. Y., News
New Haven, Conn., Register
New Orleans, La., Item-Tribune
Newport, R. I., News
Newport News, Va., Press
New Rochelle, N. Y., Standard-Star
New York Jewish Journal
New York News
New York Staats Zeitung
New York Sun
New York World-Telegram
Brooklyn Daily Eagle
Brooklyn Times
New Orleans, La., Times-Picayune
Long Island, N. Y., Press
Long Island, N. Y., Star
Staten Island, N. Y., Advance
Niagara Falls, N. Y., Gazette
Norfolk, Va., Virginian-Pilot
Norristown, Pa., Herald
Norwalk, Conn., Hour
Oklahoma City, Okla., News
Oklahoma City, Okla., Oklahoman
Omaha, Nebr., World-Herald
Oswego, N. Y., Palladium Times
Oleon, N. Y., Times-Herald
Paducah, Ky., Sun-Democrat
Pawtucket, R. I., Times
Parkersburg, W. Va., Sentinel
Peoria, Ill., Journal-Transcript
Philadelphia News
Philadelphia Public Ledger
Philadelphia Record
Pittsburgh, Pa., Press
Portland, Ore., Journal
Portland, Ore., News-Telegram
Portsmouth, Va., Star
Pottstown, Pa., Mercury
Pueblo, Colo., Chieftain
Raleigh, N. C., News-Observer
Raleigh, N. C., Times
Reading, Pa., Times
Richmond, Va., News-Leader
Richmond, Va., Times-Dispatch
Roanoke, Va., Times-World
Rochester, N. Y., Times-Union
Rockville Centre, N. Y., Review
Rome, N. Y., Sentinel
Reading, Pa., Eagle
Rockford, Ill., Register Republic
Sacramento, Calif., Union
St. Cloud, Minn., Times
St. Joseph, Mo., News
St. Louis Commercial Color Press
St. Louis, Mo., Post-Dispatch
St. Petersburg, Fla., Independent
St. Petersburg, Fla., Times
Salt Lake City Tribune-Telegram
San Francisco, Calif., Chronicle
Sarasota, Fla., Herald
Sayre, Pa., Times
Schenectady, N. Y., Union-Star
Seattle, Wash., Star
Seattle, Wash, Times
Shamokin, Pa., Dispatch
Sharon, Pa., News-Telegraph
Sharon, Pa., Herald
Sioux City, Iowa, Journal
Sioux Falls, S. D., Leader
South Bend, Ind., News-Times
South Bend, Ind., Tribune
Spokane, Wash., Spokesman-Review
Springfield, Ohio, News-Sun
Springfield, Mo., Leader-News
Springfield, Mo., Press
Springfield, Mass., Republican
Springfield, Mass., Union
Springfield, Ill., State-Register
Stamford, Conn., Advocate
Superior, Wis., Telegram
Syracuse, N. Y., Herald
Syracuse, N. Y., Post-Standard
Saginaw, Michigan, News
St. Charles, Ill., Circular Pub'n.
Sacramento, Calif., Bee
Shreveport, La., Journal
Tacoma, Wash., News-Tribune
Tallahassee, Fla., Democrat
Tamaqua, Pa., Courier
Tampa, Fla., Times
Trenton, N. J., Times
Troy, N. Y., Record
Troy, N. Y., Times
Tulsa, Okla., World
Tampa, Fla., Tribune
Texarkana, Ark., Press
Uniontown, Pa., News-Standard
Urbana, Ohio, Citizen
Utica, N. Y., Press
Utica, N. Y., Observer-Dispatch
Vernon, Texas, Record
Waco, Texas, News-Tribune
Waltham, Mass., News-Tribune
Warren, Pa., Times-Mirror
Washington, D. C., Star
Washington, D. C., News
Washington, Pa., Observer
Watertown, N. Y., Times
Waukegan, Ill., News-Sun
West-Chester, Pa., News
West Palm Beach, Fla., Times
Wheeling, W. Va., News
White Plains, N. Y., Reporter
Wichita Falls, Texas, Times
Wilkes-Barre, Pa., Leader
Wilmington, Ohio, News-Journal
Winona, Minn., Republican-Herald
Winston-Salem, N. C., Sentinel
Worcester, Mass., Post
Wilmington, N. C., Star-News
Warren, Ohio, Chronicle
Xenia, Ohio, Gazette
York, Pa., Dispatch
Toronto, Canada, Star
Vancouver, Canada, Province
Vancouver, Canada, Columbian
Vancouver, Canada, Sun
Toronto, Canada, Telegram

VULCAN PROOFING COMPANY

FIRST AVENUE AND FIFTY-EIGHTH STREET, BROOKLYN, NEW YORK

. . Proof Press

(Continued from page 60)

because careless boys had been injured too frequently, though in many plants it is now used to very good advantage.

We have installed recently the first of our page proof presses, power driven, in the plant of the Chicago Daily *News*. This power-driven machine is a great relief to the operators as they frequently have runs of several hundreds and sometimes thousands.

The greatest advance in printing press construction in the last few years has been greater care in construction so that makeready can be reduced to the minimum. This is brought about by grinding-in the cylinders and bearings to very close limits, increasing the size and length of the bearings and removal, as far as possible, of reciprocating weights.

The modern Composing Room Press, accurately and rigidly built, has proved a most valuable acquisition in eliminating costs of pressroom operation. It is so much less expensive to correct errors in printing surfaces before the forms are locked up than to hold up a production press to correct errors that should have been corrected before the form was locked up.

One of our most successful developments during the past few years is our No. 23 machine, which gives the highest speed production of good prints of any machine we have ever built. The speed of this machine is only limited to the skill of the operator in laying the sheets. Another development is what we call our No. 040 machine which is able to take good test proofs of the largest size forms. But we can not use the regular imposing surfaces for this machine because they are not accurate enough for printing beds. There is no reason if the surface is used for imposing surfaces why it should be held to limits of accuracy and so built that it will maintain that accuracy. We therefore will not attach our printing devices to any surface we do not build.

We are always pleased to have craftsmen visit our factory at 900 North Kilpatrick Ave., Chicago. We believe our methods of precision manufacturing as well as the testing of the various models built will be of interest.

Ludlow Cuts Karnak Black

The Ludlow Karnak family is now being enlarged by the addition of a new series to be known as Karnak Black, for which fonts of matrices in a number of sizes will be completed about July first. A specimen line showing this typeface is shown herewith. Karnak Black will provide for smashing display in combination with Karnak Light and Karnak Medium, which are already in widespread use.

Karnak Black

Monotype Condition Sound

According to President Harvey D. Best's report which was made to and approved by the board of directors at the annual stockholders' meeting held in Alexandria, Va., on May 3, The Lanston Monotype Machine Company's earnings for the year ended February 28, 1934, were $1,347.53, against net loss of $79,069.23 for the year ended February 28, 1933. Dividends of $4.00 per share were paid for the year and the company has now returned to its stockholders in dividends a total of $8,445,778.

EVERY NEWSPAPER MECHANICAL EXECUTIVE SHOULD HAVE

A Hand-ee Grinder

The Hand-ee Grinder has a hundred uses in the newspaper plant. Here are a few—It removes and spots out unwanted portions of cuts, including cuts and plates that may need attention on the press—drills holes in metal or wood base for mounting cuts—clears out jets in linecasting machine metal pot mouthpieces or Monotype nozzles—drills pinholes for registering marks in color plates—sharpens all manner of small drills and grinds or cuts in holes and recesses that are hard to get at.

The Hand-ee Grinder plugs in the nearest light socket—snuggles into your hand—operates with a button—spins at the rate of 13,000 r.p.m. The motor is but 4⅛-inches long and 1⅝-inches in diameter—operates on AC or DC, 110 volts—regularly supplied with or without grip sleeve and with 3-wheel assortment.

No. 8. AB with ball-bearing construction **Price, $16.00**

CHICAGO WHEEL & MFG. CO.,
1103 West Monroe Street, Chicago, Ill.

Gentlemen—Please send us complete information on the Hand-ee Grinder.

Name .....

Concern .....

Street Address .....

City ..... State .....

EDES PHOTO-ENGRAVING

ZINC

Edes Zinc stands up under Matrix pressure.

Edes Zinc holds fine lines.

Edes Zinc in all newspaper sizes, carried in stock for immediate shipment.

Edes Zinc is the most economical to use.

Edes Zinc is exceptionally uniform in gauge and etching quality.

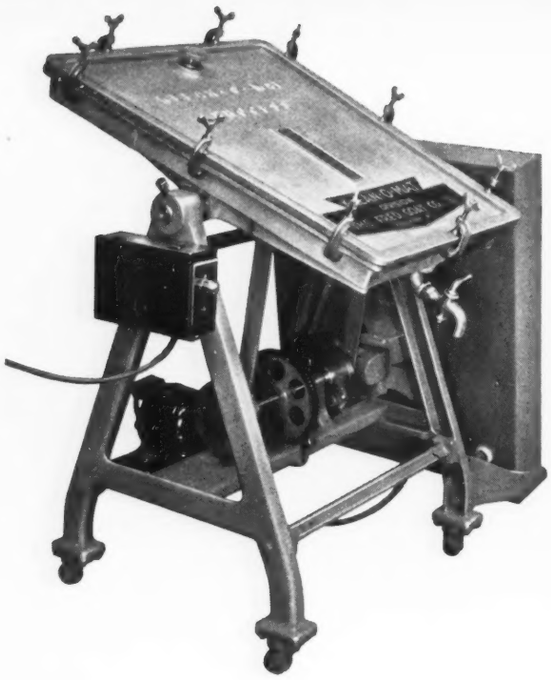
Edes Zinc is very finely polished and etches freely with little acid.

THE STANDARD FOR MORE THAN 80 YEARS

THE EDES MANUFACTURING CO., PLYMOUTH, MASS.

Sales Representatives

John H. Heimbuecher Metals Co.,
514 No. Third St., St. Louis, Mo.
Gazzolo Drug & Chemical Co.,
119 So. Green St., Chicago, Ill.
E. H. Walker Supply Co.,
Printcraft Bldg., Washington, D. C.
R. Mohr & Sons,
883 Mission St., San Francisco, Cal.
Thompson-Hayward Chemical Co.,
2228 Blake St., Denver, Colo.
Thompson-Hayward Chemical Co.,
909-2nd St. So., Minneapolis, Minn.
Metzger Photo Supply Co.,
1091 So. Main St., Akron, Ohio
G. C. Dom Supply Co.,
125 East Pearl St., Cincinnati, Ohio



"Meet Me in St. Louis"

—*says* "Klean-O-Mat"

"KLEAN-O-MAT" — which aroused such great interest at the A. N. P. A. Convention in April — will be exhibited at the A. N. P. A. Mechanical Conference in St. Louis, June, 4, 5 and 6.

A cordial invitation is extended to mechanical executives to inspect this modern method of mat and magazine cleaning which is rapidly becoming so popular. Our representatives will be glad to explain fully its advantages and give full information.

Those who do not attend the conference are urged to write for full particulars. Progressive executives should investigate "KLEAN-O-MAT" without delay and acquaint themselves with the better way to reduce machine errors, improve production and cut costs.

Klean-O-Mat Div., The Fred Goat Co., Inc.

ESTABLISHED 1893

Klean-o-Mat REG. U.S. PAT. OFF. PROCESS

314 Dean Street • Brooklyn, N. Y.

The report states that the operating position of the company is very strong. Current assets, including securities at market value and inventories, are $4,375,699 against current liabilities of $34,523, which include customers' credit balances, accrued payrolls and reserves for taxes and unclaimed dividends. Reserves for depreciation of building, machinery and fixtures now total $2,109,261 against original cost of $2,710,399. Reserve for amortization of patents now totals $1,411,349. Reserves have also been set up against possible losses of subsidiary companies.

Mr. Best further states that great progress has been made during the year in the Monotype Company's engineering department on new designs for offset and gravure plate-making equipment. Under the supervision of Art Director Frederic W. Goudy and Assistant Art Director Sol Hess, the production of new type faces has continued throughout the period of the depression.

Report is made that the Printing Equipment Industry and Trade is now operating under its Code of Fair Business Practice approved by the President and effective February 17 of this year. Problems arising in respect to the Code are rapidly being solved. The prediction is made that the industry will profit through the elimination of many practices which have grown up through the years of intense competition, and that both printers and printing machinery manufacturers will find it possible to work on a basis of mutual cooperation toward a solution of the troublesome problems of disposition of used and obsolete machinery.

. . Press Packings

(Continued from page 23)

On the first impression cylinders, I find that a hard repressed felt of 0.092 in. thick with a cork bottom blanket of 0.082 in. thick has a tendency to feed paper to the second impression cylinder in a more even flow, and also gives a smoother print on the unfinished side of the paper.

The unfinished side should always be run on the first impression where mechanically possible. Since there is no dryer in news ink, absorption is depended upon entirely for drying. It is obvious that the ink will penetrate the unfinished side of the paper more readily than the smooth side, and therefore will be set better before passing through the second impression.

On the second impression cylinder the three-piece packing consists of 0.082 in. cork, 0.062 in. cork and 0.024 in. drawsheet, or a total packing of 0.168 in. The 0.092 in. felt and 0.082 in. cork on the first impression will go down to about 0.170 in. after the first 500,000 impressions.

Although this type and gauge of packing is very satisfactory on our Goss units at the Toledo *Blade*, I realize that on other makes of presses it will be necessary to use packing of a different gauge in order to bring the impression cylinder up to the printing level, owing to the fact that the various press builders grind their impression cylinders to different circumferences, even though the presses have the same length cut-off.

It is not the intention of the writer to have the data contained in this article taken as a cure-all for packing trouble, but is the result of experiments I have made over a period of several years.

Before Buying Any Scorcher

Investigate

The New

SPEED SCORCHER

For years Speed Scorchers have led the electric scorcher field. There are more Speed Electric Scorchers in use today than all other makes of electric scorchers combined. With a background such as this we now present an improved Speed Scorcher for the approval of the Stereotype industry.

The new Speed Scorcher is outstanding for its economy, simplicity, durability, balanced heat and greater air cushion. It has a rigid outer lid which carries a floating cover. When the cover comes down over the base it fits perfectly, this being the secret of good scorching. The asbestos liner is supported by a screen, the combination preventing buckling. The screen prevents depressions so frequently found in scorchers with flexible covers. The heating units have been rearranged to give the most uniform heat possible.

Speed Scorchers pioneered the low-price field and the new Speed Scorcher is no exception. Its price will be a welcome surprise to Stereotype Departments requiring new or additional scorchers.

Send the Coupon for Complete Information

SPEED PRODUCTS, Inc.
437 East 105th Street, Cleveland, Ohio.

Gentlemen—Please send us complete information and prices on the new Speed Scorcher.

Firm name .....

Street .....

City ..... State .....

. . Offset Prevented

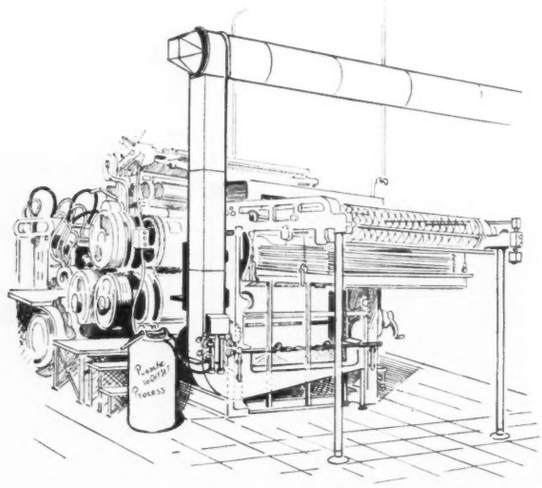
(Continued from page 32)

"No Offset" Unit will cut off and on with the starting and stopping of the press.

Sixth, the ventilating equipment removes the surplus mist, prevents clogging of machinery and cuts, and removes foul air.

This equipment is furnished in portable or stationary units as desired.

Your present air compressor may be used if it has a minimum pressure of 60 lbs. and can furnish 4 cu. ft. of free air per min. for each gun unit.



Harris, Potter or Miehle Offset presses may be equipped with stationary or portable units.

This Process makes it possible to run over-print or spot varnish jobs at normal press speed, stacking the sheets at normal delivery height without sticking or spotting. The luster of the varnish is only slightly affected. Traying and racking are avoided.

This process, prevents offset on cellophane, tin foil, glossy or hard enamel stock paper and cardboard of all grades. A label concern found that 500 tin foil sheets could be stacked in a pile. Where formerly carton printers were compelled to pile a few cardboards at a time, from 250 to 500 or even 1,000 sheets can now be stacked.

For web presses, where it is not possible to apply the solution on the printed side, satisfactory results are obtained by treating the web on the opposite side, as this will cause a sufficient separation between the sheets so that if they are immediately rolled up after printing, or cut and folded, the offset is prevented. In magazine printing where rather soft and light paper is used this Process will help to eliminate smudging and offset.

Ball Bearing Roller Core

According to William C. Hart Company, Inc., 137 Green St., New York, N. Y., the ball bearing inking roller core made possible the use of rubber rollers, which are many degrees harder than composition or other types of rollers by lessening the friction, and preventing wiping or dragging of the roller. It prevents severe strain on the sockets and saves wear and tear on the face of the roller and gives longer life as well as better printing results.

Many pressmen find that by using ball bearing rubber cores, the elimination of friction prevents melted rollers and for that reason ball bearing roller cores show real economy.

AT THE ST. LOUIS MECHANICAL CONFERENCE

Kork-O-Tan
REG. U. S. PAT. OFF.
BOTTOM PRESS BLANKETS

SAVING
SATISFACTION
SERVICE

In Room 1118

HOTEL STATLER

MR. E. W. JONES
Manager Cork Fibre Products Division

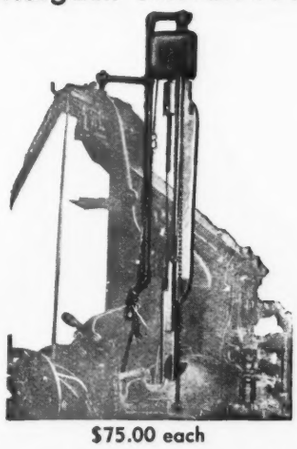
MR. JOSEPH W. ADDISON
In Charge of Service to Newspapers

JOE ADDISON needs no introduction to most of those present at the Conference. Having spent his whole life in the newspaper business, an expert in Stereotype and Press Room management, he will welcome discussion of any problems, whether connected with our particular end of the business or not.

BEHR-MANNING • *Established 1872* • TROY, N. Y.

LOOK! *See what These can do for You!*

"Margach" Metal Feeder



$75.00 each

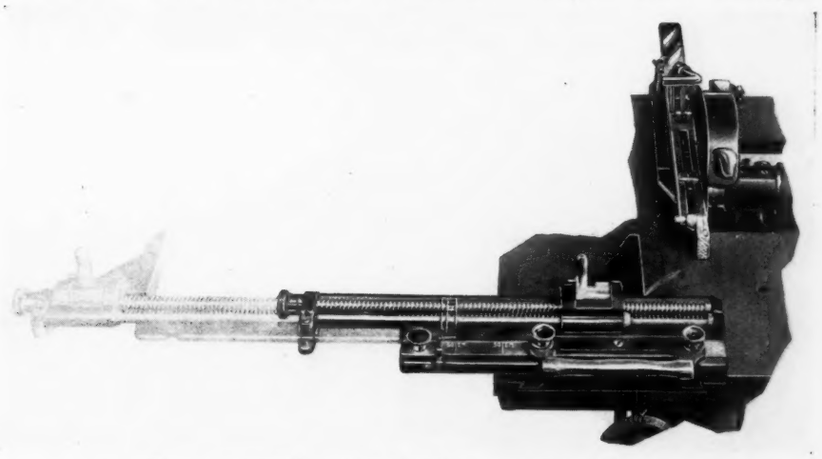
For use on Linotypes, Intertypes, Monotypes, Ludlows and Elrods. Lowers metal bar into pot just as fast as the melted is being used.

Today over 14,000 Margach Metal Feeders are adding to the profits of their owners by speeding production, saving time and money.

Easily installed. Costs you only $75.00 and is guaranteed for 10 years.

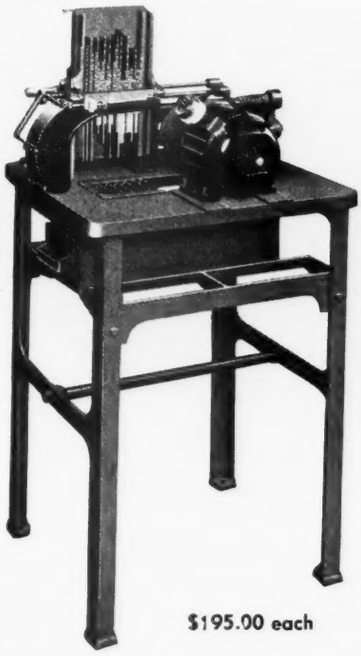
Sales representatives include the Mergenthaler Linotype Co., Intertype Corp., Lanston Monotype Co., and Ludlow Typograph Co.

WHAT YOUR SAW NEEDS—Rapid Saw Gauge



Gauge in normal position, showing extensions to 133 ems

Simply apply it as you apply your present swivel gauge. No fitting necessary. The Rapid Gauge is quick and accurate. Will take in measures from 6 points to 133 ems instantly. No need hunting for an extension gauge. Has "micrometer" adjustment to fractions of points. Can easily be applied to any saw besides the Miller, and it is by far the best gauge ever conceived for any composing room saw.



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Routs the shoulders on Linotype slugs so low that all danger of ink reaching them is eliminated. Routs a galley a minute.

Makes spacing material from used Linotype slugs.

Handles as many as thirty 12-pt. slugs at one time—from 4 to 42 picas long. Impossible to injure the face of type.

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No screws, ratchet or racks to wear out and replace.

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A softie in the bath . .

It doesn't seem possible that such a tough, hard metal as A-Z Alloy could quickly melt in the acid bath, but that is just exactly what happens.

A-Z Alloy is made by a special formula and produced by the Electric Induction method. It will make more than 500 dry mats, without the sign of wear. But in the bath, it goes down like a new straw in a heavy rain shower.

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A-Z ELECTRIC ALLOY

Printing Equipment and Supply Patents

Printed Copies of Patents Are Furnished by the Patent Office at 10 Cents Each. These May Be Obtained by Addressing the Commissioner of Patents, at Washington, D. C.

1,955,621. SLUG CASTING MACHINE. Harold A. Burt, St. Albans, N. Y., assignor to Mergenthaler Linotype Company, a corporation of New York. Application September 15, 1932, Serial No. 633,253. 20 Claims. (Cl. 199 — 50.)

1. In a slug casting machine, the combination of a mold, and means setable manually and actuated automatically at predetermined cycles of operation of the machine for closing the mold to cast blank slugs, the cycles being determined by the manual setting of the means.

1,955,624. MATRIX-SETTING AND TYPE-LINE CASTING MACHINE. Julius Dorneth, Konradshohe, near Berlin-Tegel, Germany, assignor to The Firm Typograph G. m. b. H., Berlin, Germany. Application January 24, 1933, Serial No. 653,338. In Germany January 27, 1932. 9 Claims. (Cl. 199 — 4.)

1. In a matrix setting and typeline casting machine, a plurality of guide wires, matrix bars movable along the wires, a collecting station for receiving a group of the matrix bars moving along the wires, rotating snafts at bota sides of the collecting station, and feed members on the shafts, the feed members being arranged to engage each individual set matrix bar arriving in front of the collecting station simultaneously at two widely spaced points and feed the bar in a vertical position and parallel to itself into the collecting station.

1,955,638. PRINTER'S QUOIN. Henry Klein, Philadelphia, Pa. Application December 20, 1932, Serial No. 648,133. 2 Claims. (Cl. 254 — 42.)

1. A printer's quoin comprising two sections, the diagonal opposite heads of which having grooves, in the bottoms of which pockets are formed, the pockets having their opposite ends normally open, the adjacent faces of the two sections being correspondingly inclined and provided with ribs incident to and in alignment with and entering the grooves, the ribs having semi-cylindrical notches, rolling tensioned balls mounted in the pockets and protruding beyond the bottoms of the grooves for rolling cooperation in either direction with the notches in the ribs, and abutments positioned at the opposite open ends of the pockets for retaining the tensioned balls in place.

1,955,713. WEB GUIDE FOR PRINTING MACHINES. John R. Tomlin, Brooklyn, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application May 21, 1931, Serial No. 539,094. 5 Claims. (Cl. 271 — 2.1.)

1. In a device, a web guide, and yieldable tension relieving surfaces on the guide, the surfaces normally contacted by the edges of the web in its travel.

1,955,717. FEED MECHANISM FOR BED AND CYLINDER PRESSES. Hans Honigmann, Cleveland, Ohio, assignor to The Chandler & Price Company, Cleveland, Ohio, a corporation of Ohio. Application February 19, 1932, Serial No. 593,975. 12 Claims. (Cl. 101 — 279.)

1. The combination with a printing couple comprising a reciprocable bed for carrying the form and a cylinder for carrying the sheet to be printed; of a stationary feed table arranged tangential to the cylinder and provided with sheet registering means a movable register table for moving the sheet from registered position to engagement with the cylinder and suction means for holding the sheet in engagement with the table during such movement.

1,955,752. FORM ROLLER FOR PRINTING MACHINES. Frederick Lamatsch, Grantwood, N. J., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application April 1, 1932, Serial No. 602,481. 9 Claims. (Cl. 101—349.)

1. In a rotary printing machine, a rotatable form cylinder, a rotatable form roller normally in surface contact therewith, driven gears adapted to positively rotate the form roller, and an over-running clutch forming part of the gear drive.

1,955,917. WEB ROLL SUPPORT. Albert H. Jung, Long Island City, New York, assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application January 23, 1932. Serial No. 588,301. 6 Claims. (Cl. 242—68.)

1. In an apparatus, a plunger, a rotatable cone member mounted thereon and adapted to support a web roll, a slide operable to move the plunger, a link pivoted at one end to the plunger and at the other end the the slide, and means for guiding and reciprocating the slide whereby the link is swung at a decreasing angle to the plunger axis to project the cone member at decreasing speed, but with increasing force.

1,955,933. PRINTING PLATE HOLDER. Siegmund J. Roesner, Oak Park, Ill. Application October 6, 1933. Serial No. 692,376. 19 Claims. (Cl. 101—387.)

1. A printing plate holder adapted for cooperation with a channeled base, comprising, in combination, an apertured clamp plate, a pair of opposed anchor blocks hinged to each other at their top edges adapted to occupy a channel of the base, and means for expanding the blocks against the side walls of the channel, the expanding means extending through and operable from above the aperature of the clamp plate.

1,956,093. STEREOTYPE CASTING MACHINE. George A. Field, Minneapolis, Minn. Application January 13, 1933. Serial No. 651,529. 8 Claims. (Cl. 22—2.)

1. A stereotype casting machine having in combination, a frame, a casting box swingable thereon to and from metal receiving position, a melting pot, a bracket mounted on the frame and extending above the elevation of the casting box and having means supporting the pot about a horizontal axis, and means for supporting the bracket for movement about a vertical axis, the bracket being swingable about the vertical axis to move the melting pot toward and away from the casting box when in metal receiving position, and the melting pot being tiltable on the horizontal axis to metal pouring position.

1,956,100. LINE CASTING SLUG LENGTH CONTROL. Leon Kraft and Clark H. Thompson, San Diego, Calif. Application December 26, 1930. Serial No. 504,794. 14 Claims. (Cl. 199—55.)

1. In a line-casting slug length control, a water-cooled slug-casting mold including a slot intersecting an end thereof, water passages bordering the slot, and an offset hollow web bridging the extremity of the slot and forming a portion of the water passages, a slug length control bar slidable in the slot from the end of the mold, and means for shifting the bar into the slot a predetermined distance.

1,956,228. FLAT BED CUTTING AND CREASING PRESS. Melvin H. Sidebotham, West Newton, Mass., assignor to Specialty Automatic Machine Company, Chelsea, Mass., a corporation of Massachusetts. Application March 16, 1932. Serial No. 599,165. 18 Claims. (Cl. 93—58.)

1. A cutting and creasing machine having a reciprocatory die-carrying bed means for automatically feeding sheets singly to the bed and registering them thereon, and means for pressing the sheet on the bed during movement thereof.

1,956,566. PRINTING MACHINE. William K. Eckhard, Dunellen, N. J., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application September 19, 1931. Serial No. 563,763. 10 Claims. (Cl. 271—52.)

1. In a printing machine adapted to operate on separate sheets of paper, registering and aligning means comprising the following elements in combination: Means on one side of the

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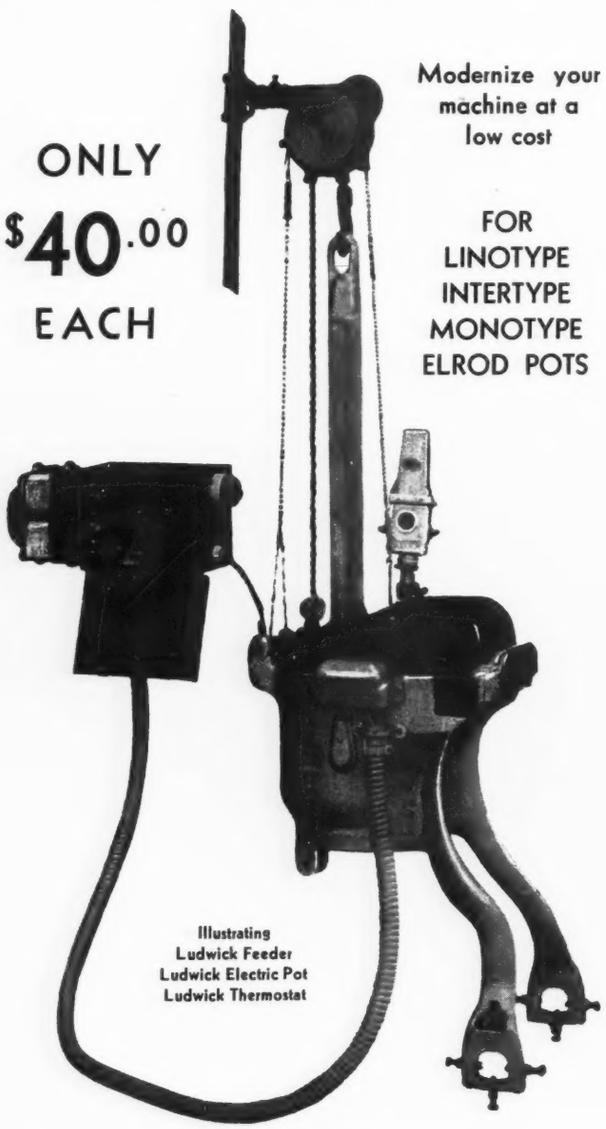

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machine adapted to draw a sheet of paper against a side registering means, and a resisting device reciprocatingly mounted on the other side of the machine and adapted to engage a sheet and maintain tension thereon when the same is acted upon by the drawing means, the resisting device comprising a ball and supporting means therefor, adapted to permit the ball to lie upon the surface of a sheet of paper.

1,956,647. ATTACHMENT FOR PNEUMATIC FEED PRINTING PRESSES. Henry T. McCoy, Huntington Park, Calif. Application July 11, 1932. Serial No. 621,852. 4 Claims. (Cl. 271—56.)

1. An attachment for a pneumatic-feed printing press comprising a valve insertable in the feeder shoe suction line of the press, and means operable by movement of the feeder shoe for closing the valve during alternate feeding movements of the shoe and opening the valve during the intervening feeding movements whereby the feeder shoe feeds a sheet only on alternate feeding movements, the valve comprising a member having a passage therethrough insertable into the suction line, a gate reciprocable between two positions to open and close the passage, a carriage, guides slidably supporting the carriage for movement laterally with respect to the path of reciprocation of the gate, means for linking the carriage to the feeder shoe of the press whereby it reciprocates in unison with the feeder shoe, an oscillatable cam plate pivotally mounted upon the carriage, the plate being relatively wide at its pivotal mounting and diminishing in width away from the pivotal mounting to a narrow end, means for limiting oscillation of the narrow end of the cam plate to equal arcs on either side of the path of movement of the pivot, a cam-follower on the gate engageable with one side of the cam plate as the latter is moved in one direction by movement of the carriage, whereby the gate is moved into its opposite position, and a shoulder on the cam plate engaging with the cam-follower near the end of the stroke to oscillate the cam plate into its opposite position, whereby on the next succeeding stroke in the same direction, the cam-follower encounters the opposite side of the cam plate and is thereby moved, together with the valve gate, into its opposite position.

1,956,699. PRINTING MACHINE. Charles B. Russell, Buffalo, N. Y., assignor to Clara A. Russell, Buffalo, N. Y. Application November 3, 1932. Serial No. 640,935. 5 Claims. (Cl. 101—232.)

1. In a printing press, a revolvable printing cylinder having a plurality of printing devices circumferentially arranged thereon for printing a corresponding number of impressions upon each revolution thereof, means for supporting a stack of articles each to receive an impression from one of the devices on the cylinder, drive means for revolving the printing cylinder, a rotatable element, feed means operable by the rotation thereof for removing articles one at a time from the stack and presenting the same for operation thereupon by the printing cylinder, and operative connections between the printing cylinder drive means and the rotatable element for rotating the latter as many revolutions to one revolution of the printing cylinder as there are printing devices on the latter to enable impressions therefrom to be made upon a corresponding number of articles.

1,956,807. PAPER FEEDING MECHANISM. Herbert T. Nicholas, Sandusky, Ohio, assignor to The Rotary Printing Company, Norwalk, Ohio, a corporation of Ohio. Application October 12, 1932. Serial No. 637,450. 16 Claims. (Cl. 271—2.5.)

1. In a paper feeding mechanism, the combination with means for supporting a folded web of paper, means for feeding such web over its support, a series of weights acting on the web to press out air pockets between the folds, and members in advance of the weights comprising a pair of rollers allowed by gravity to ride on each side of the web fold and coact with the edges thereof.

7. The combination of a paper support comprising a series of parallel rods, a cross-head having a series of fingers adapted to bear downwardly on the paper between the rods, and supports lying below the level of the rods rigid with the cross-heads adapted to engage the underside of the paper between the rods and beneath the fingers.

1,956,862. STAMP AFFIXING MECHANISM FOR PRINTING PRESSES. Harry C. Gantz, Seattle, Wash., assignor of one-half to George W. Milne, Seattle, Wash. Application November 26, 1932. Serial No. 644,440. 20 Claims. (Cl. 216—1.)

1. The combination with printing apparatus, of a chase, printing type and a stamp affixing mechanism locked in the chase, and means for actuating the mechanism during each printing operation of the apparatus to thereby affix a stamp upon the article being printed.

1,957,050. MULTIPLE WEB STATIONERY. Urban F. Gochoel, Dayton, Ohio, assignor to The Egry Register Company, Dayton, Ohio, a corporation of Ohio. Application August 18, 1930. Serial No. 475,889. 3 Claims. (Cl. 282—12.)

1. A manifold pack comprising record and transfer strips in superposed relation having weakening lines dividing such strips into sheets of equal length, successive weakening lines of the respective record strips being respectively aligned, but disaligned with corresponding lines of the carbon strip, the weakening lines of the record strip being made of perforations and the weakening lines of the carbon strip being made of a plurality of separated slits and having at least one slit extending to the margin thereof.

1,957,104. STEREOTYPE PLATE CASTING MACHINE. William Gerrard, Timperley, and Walter Harris, Altrincham, England. Application February 25, 1932. Serial No. 595,116. In Great Britain March 12, 1931. 12 Claims. (Cl. 22—2.)

1. A stereotype plate-casting machine comprising a vertical concave back and a convex core adapted to be moved out of casting relationship with the back into a substantially horizontal position, a pivoted support on which the core rests when in casting position, and means for moving the support rectilinearly to move the core away from the back prior to the tilting of the core.

1,957,332. LINE-CASTING MACHINE. Lewis Geisert, Philadelphia, Pa. Application October 26, 1933. Serial No. 695,373. 6 Claims. (Cl. 199—22.)

1. In a spaceband delivery mechanism, the combination with a receptacle for a plurality of the spacebands, of means for guiding the upper ends of the bands to a position of discharge, and means including an integral pivoted escapement member for controlling the movement of the lower ends of the bands successfully to the discharge position.

1,957,433. METHOD OF MAKING A PHOTOGRAPHIC PRINTING PLATE. Ellis Bassist, Milwaukee, Wis., assignor to Lanston Monotype Machine Company, Philadelphia, a corporation of Virginia. Application May 26, 1930. Serial No. 455,882. 8 Claims. (Cl. 95—5.6.)

1. The method of forming a photographic printing plate which consists in coating a transparent plate with a sensitized emulsion containing metallic salts, exposing said coating to the action of light under a half-tone negative, developing the plate until all of the light affected salts are completely reduced to the metallic state, then washing the developed plate, then treating the plate with a deep bleaching solution, then converting the image of the plate to its original metallic state by treating it with a developing solution and exposing it to the action of light, and then chemically etching the resulting image carried by the plate.

1,957,447. PRINTING MACHINE. William K. Eckhard, Dunellen N. J., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York; Irving Trust Company, receiver. Application June 4, 1931. Serial No. 542,040. 8 Claims. (Cl. 101—352.)

1. In a printing machine, the following elements in combination: a supporting frame, a form cylinder journaled therein, an ink distributing cylinder also journaled therein, a frame slidably mounted in the main supporting frame of the machine, a form roller carried by the sliding frame and adapted to contact with the form cylinder when the sliding frame is in its lowered position and to be separated therefrom when the sliding frame is in its raised position, an ink distributing roller also carried by the sliding frame and adapted to contact with the form roller, an arm swingingly mounted co-axially with the ink distributing cylinder, an ink feed roller carried by the swinging arm and adapted to contact with the ink distributing cylinder and the ink distributing roller, and a link connecting the ink feed roller and the ink distributing roller and adapted to maintain the same in a predetermined relation with respect to each other as the sliding frame is operated to throw the form roller into or out of contact with the form cylinder.

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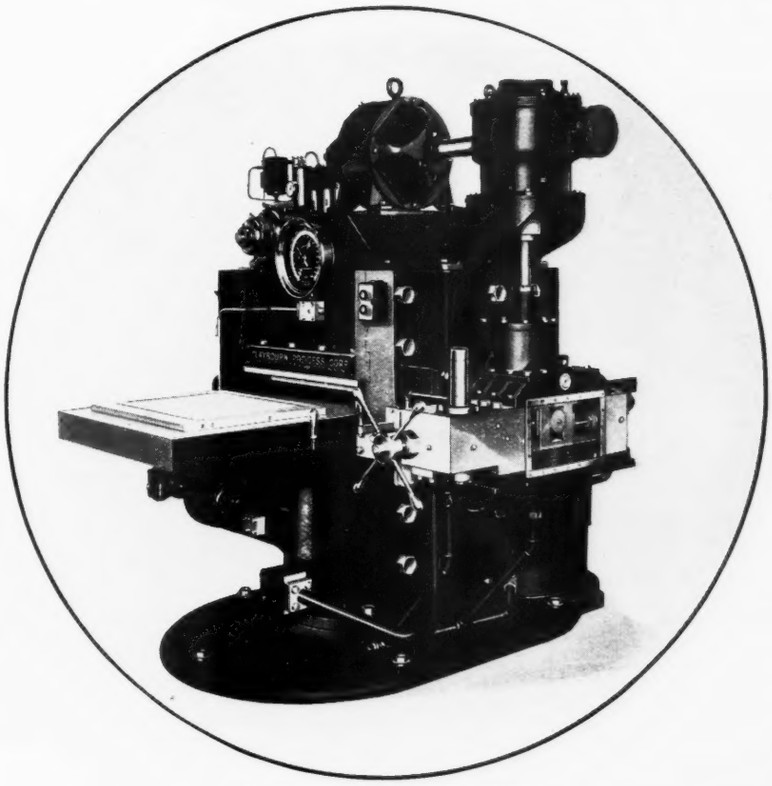

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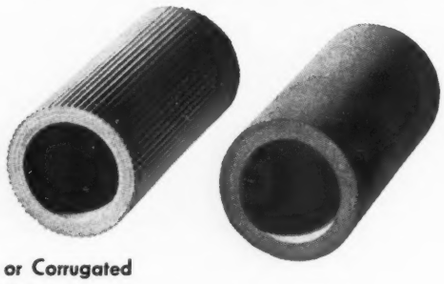

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DIRECT pressure, *providing it is evenly and accurately applied*, is obviously the ideal method of matrix moulding, and the only means by which a true facsimile can be obtained. The failure of certain of the earlier American-made direct-pressure machines, due to inadequate construction and speed, is admittedly the chief reason why matrix rollers still dominate the domestic newspaper field.

On the other hand, it is significant that in other civilized countries most of the larger newspapers have adopted the direct pressure principle of matrix making.

Pressure exerted through a matrix roller operates on a "line" contact; that is the inherent fault of *all* rollers, regardless of all attempts to improve a type of machine which is obsolete in principle. The side pressure resulting from this line contact tends to push the type off its feet, turn over rules, and thicken the screen dots of halftones.

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The rolling process stretches the matrix slightly, thereby causing some distortion of detail that will show up in high-class printing. Moulding by direct pressure eliminates this stretch, thereby saving about $\frac{1}{8}$ of an inch per page, or $\frac{1}{2}$-inch on a four-page web, which corresponds to a *saving of .87 lb. of newsprint paper per 1000 eight-page papers.*

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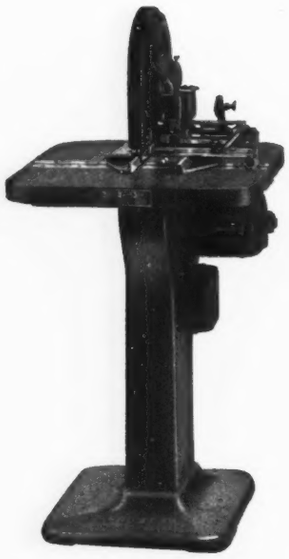


The Rouse Band Saw

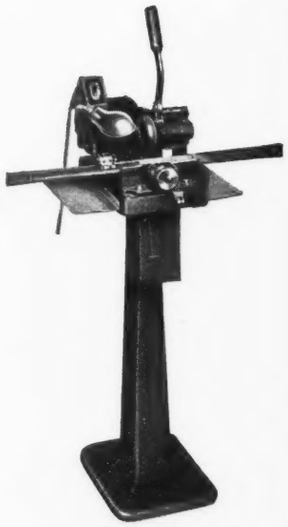
With one sweep of the aligning bar on the No. 2 machine (shown at left), 7 inches of odd-measure linotype slugs are lined up — push a button — and in 20 seconds every slug is cut to its proper measure, regardless of the number of sizes. The larger, No. 1 machine, saws 17 inches in 35 seconds. Leads, slugs and rules also cut faster than any other way.

Either machine will quickly pay for itself in any shop that operates two or more machines on odd-measure slugs.

The Rouse Vertical Rotary Miterer (right)

Miters metal or brass rules up to 24 points in thickness direct from the strip, faster, safer, and better than any other machine. Gauges to 144 picas by Quarter-Points. **Has Automatic Clamp.** Also cuts endless variety of fancy borders. **The last word in accuracy, speed and safety.**

See these machines, also the new ROUSE TYPE MORTISER, in operation at the A.N.P.A. Mechanical Conference, Hotel Statler, St. Louis, June 4, 5 and 6.

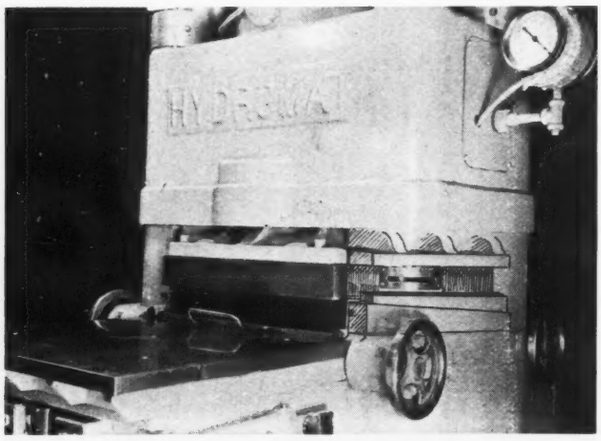


H. B. ROUSE & COMPANY, 2214 Ward St., CHICAGO

Manufacturers SUPER-EFFICIENT TOOLS FOR PRINTERS

Direct Pressure Depthmeter

It is claimed by the Electro-Hydraulic Machinery Co., Akron, Ohio, that a perfect depth control and safeguard against smashing the form or injuring the cushion is the most important feature in the new Hydromat direct pressure matrix press. As is shown in the phantomed part of the



photograph the movable upper press platen extends on both sides into the housing. On its downstroke in molding, these extensions come to rest on each side on a pair of wedges, thereby limiting the stroke and insure under all circumstances a parallel position of the platens. This device of stroke limitation is adjustable by means of handwheels and the depth of the impression in the mat can be read from pointers on dials, such as is shown above the front handwheel in the photograph.

The pressure gauge (shown at the upper right of the picture) merely registers the tonnage and serves as an automatic shut-off for the pump.

It is also claimed that guesswork as to the required pressure for large or small forms is avoided. Damage to the form by setting the pressure too high is eliminated.

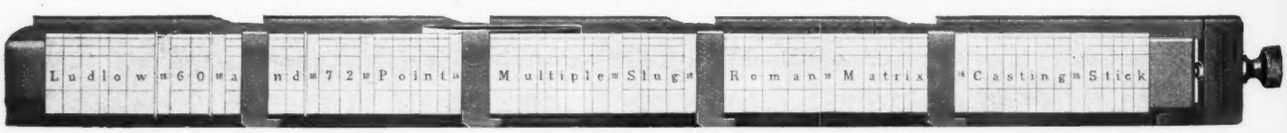
It is within the regular manner of molding to place a small cut under the front edge of the press platen and let the gauge register the same tonnage as for a full newspaper page size. Deeper impressions than set on the dials of the depthmeter will be avoided.

The highest precision combined with safety and freedom from uncertainty, can be permanently maintained.

Ludlow Multiple Slug Stick

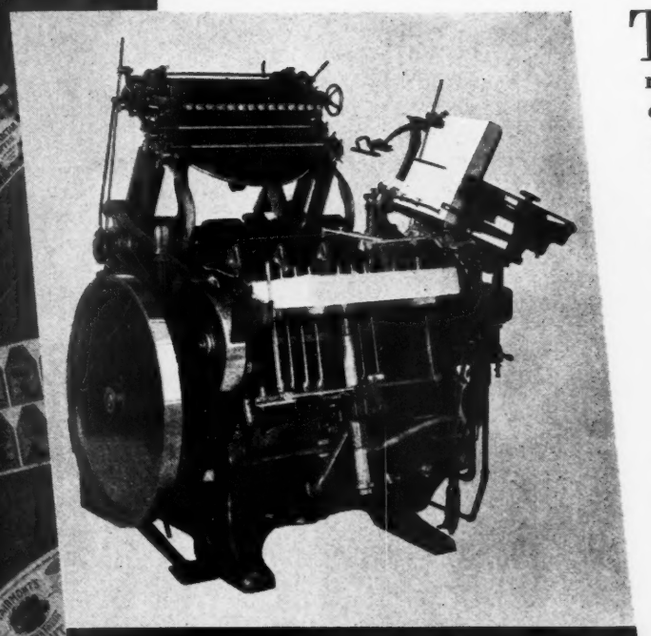
New multiple-slug matrix sticks, with division quads, for use with matrices in the 60 and 72 point sizes, are announced by the Ludlow Typograph Company. These sticks are made in the two, three and five-slug lengths.

With these sticks, plants setting a considerable volume of composition in the larger sizes can set long lines with a single justification and cast the successive slugs without transferring the matrices to another stick. Division quads are supplied for use with either roman or italic matrices. The five-slug stick is illustrated.

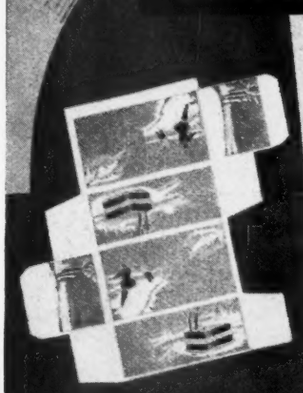


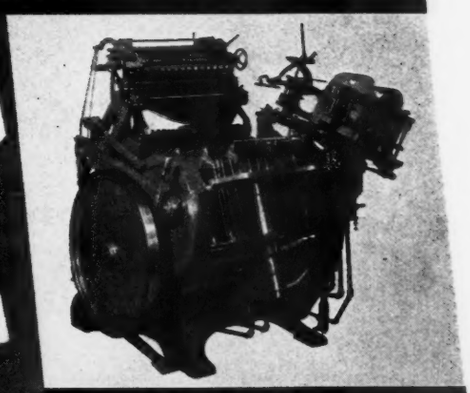
FOR RAPID PRODUCTION AND LOWER COSTS

EVEN ON DIFFICULT JOBS



The Regular 14½x22 Craftsman Automatic Unit; provides steady low-cost production at speeds up to 2600 impressions per hour.





The Heavy Duty 14½x22 Craftsman Automatic Unit, with heavier gears, shafts and bearings and with double gear drive. Designed especially for continuous operation on stamping, embossing, cutting, creasing, book cover printing, etc. Production speeds up to 2300 impressions per hour.

THE goal of every printer—a profit on every job. But when "out of the ordinary" work is attempted on ordinary press equipment that goal is difficult to reach.

Here's where the plant using one or more 14½x22 Craftsman Automatic Units has the edge on costs and competition. This versatile automatic press, designed for the widest possible variety of regular platen presswork, also provides low-cost automatic feeding for many jobs difficult even to hand feed on other presses.

You can use the 14½x22 Craftsman Automatic Unit to earn steady, year-'round profits on broadsides, circulars, commercial forms and stationery, envelopes two-up, catalog and book covers, street car and window cards—

Use it also for halftone and color printing (you'll find its distribution and register adequate for your most particular work)—

Use it for folding cartons, fans, indicator dials, advertising novelties and odd shapes—

For light stamping and embossing, for die-cutting, scoring and creasing—

For any size of sheet from post card to press capacity, any stock from manifold to litho board, even for celluloid, leather and thin wood—

In short, the 14½x22 Craftsman Automatic Unit is the profitable press to use both on ordinary and unusual work of every kind up to the limits of its capacity—wherever rapid automatic production will give you lower costs and a better chance for profit.

In proportion to its versatility and output, the 14½x22 Craftsman Automatic Unit, Regular or Heavy Duty, costs little to own and less to operate. Write us for samples of work, specifications and price.

THE CHANDLER & PRICE 14½x22 CRAFTSMAN AUTOMATIC UNIT, REGULAR AND HEAVY DUTY

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While in St. Louis . . .

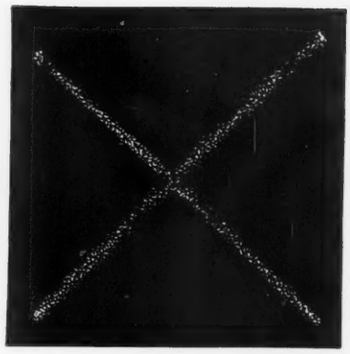
KOHLER REELS
KOHLER TENSIONS
AND A
KOHLER FLYING PASTER

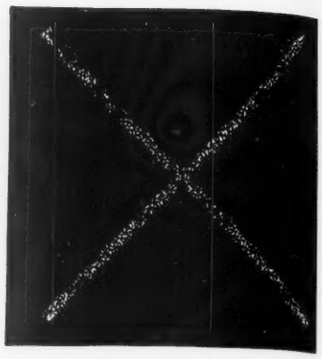
MAY BE SEEN

IN EFFICIENT DAILY OPERATION
AT THE THOROUGHLY MODERN
PLANT OF THE

GLOBE-DEMOCRAT

KOHLER BROTHERS
ENGINEERS AND MANUFACTURERS
NEW YORK CHICAGO SAN FRANCISCO





Intertype Introduces New and Unique Composing System

Large type, beyond the range of an Intertype keyboard, is frequently required in almost every composing room. Heretofore, the methods used for obtaining the lines of big type required for any job of composition have been both expensive and time-consuming.

The New Intertype Composing System combines keyboard and hand composition to produce the occasional lines of big type from the same machine that sets small type—both at the lowest possible cost.

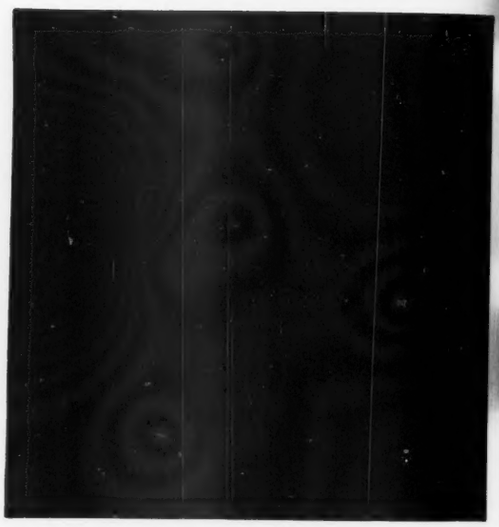
It is no longer necessary to purchase an expensive special machine to cast the few lines of very large type required by the average composing room.

When using this New Intertype Composing System and the copy calls for a line of large type the operator composes the matrices and spacebands in a special stick, very similar to an ordinary type composing stick.

The "head" of the first elevator is hinged so that it can be swung back and the matrices transferred to the elevator jaws. Then the "head" is closed, a convenient handle pulled and the line of big type is cast on the same machine that casts the small type which is set on the keyboard.

Whether from the keyboard or hand-set—small type or large type—this new composing system permits automatic justification of all lines.

Existing Intertype matrices up to 60 point condensed are already available for this new system. Many new and attractive additional Intertype faces up to five-eighths of an inch in height, and regular normal width, are now in process of manufacture. The need of extra magazines to hold matrices has been eliminated. A convenient cabinet is provided for the storage of matrices. This sturdy cabinet is furnished with ten, fifteen or twenty drawers.

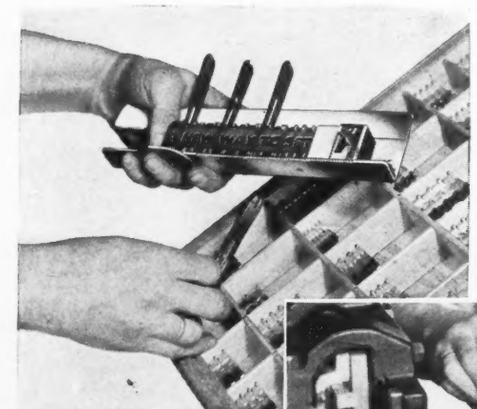


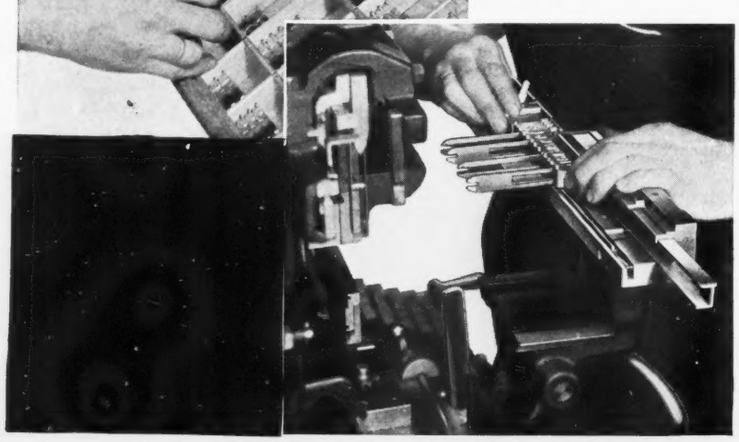
The characters are arranged according to the standard cap type case layout, with which all compositors and operators are familiar.

This New Intertype Composing System makes possible ALL-SLUG composition from 5 point up to full-width 60 point caps. For this reason many composing rooms will use this system to make corrections, because corrections of any and practically all sizes of type can be very quickly made—without shifting or replacing magazines.

The New Intertype Composing System is available on any Intertype. There are no mechanical complications of any kind. The new equipment does not interfere in any way with normal operation of the machine.

Write today for full details to the nearest Intertype office listed below.





INTERTYPE

360 FURMAN ST., BROOKLYN, N. Y.

Chicago, 130 North Franklin Street; San Francisco, 152 Fremont Street; New Orleans, 1007 Camp Street; Los Angeles, 1220 South Maple Avenue; Boston, 80 Federal Street; Canada, Toronto Type Foundry Co. Limited, Toronto. Distributors Throughout the World

Set on the Intertype in Cairo and Bookface